
ENVIRONMENTAL ENFORCEABILITY

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ABSTRACT

There are great expectations for a resurgence in federal environmental enforcement in a Biden-led federal government. Indeed, federal environmental enforcement suffered serious blows during the Trump administration, particularly at the Environmental Protection Agency (EPA), including large cuts in the budget for enforcement and reversals of key enforcement policies. Yet, while important to repair the damage, truly strengthening federal environmental enforcement will require more. This Article highlights the need for greater attention to the multiple hurdles that plague environmental enforcement. In doing so, it makes three contributions to the literature. First, it asserts that even though environmental statutes, regulations, and guidance documents often contain “enforceable” as an explicit term, in practice the term lacks scope and definition, making the actual enforceability of regulations dubious. Second, it demonstrates the difficulties with actual enforceability by examining key hurdles that become legal defenses for corporate and government defendants in environmental enforcement matters regarding regulatory exceptions, evidentiary standards, and the preemption and preclusion doctrines. Third, it recommends that drafters of environmental laws and regulations consider actual enforceability by considering, within the documents they are drafting, the likely hurdles for enforcers after the law or regulation becomes effective. Although hurdles in environmental enforcement can be important for regulatory flexibility, judicial expediency, and other normative values, they often result in a tradeoff for achieving enforceability of environmental laws and regulations. Grapppling with such tradeoffs, within the law or regulation itself, is essential for meeting the expectations for enforcement held by regulated entities, researchers, environmental advocates, and, most of all, local communities. After all, as noted in a March 2021 Grist news article, “[l]aws are only as good as their enforcement.”¹

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¹ Naveena Sadasivam, *Inside Biden’s Uphill Battle to Restore the EPA After Trump*, GRIST (Mar. 1, 2021), <https://grist.org/politics/epa-joe-biden-environmental-law-enforcement-trump>.

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INTRODUCTION

The Biden administration has put racial equity and climate change at center stage of the federal government’s regulatory and policy agenda.² In particular, the Biden administration has launched the Justice40 Initiative, designed to enhance benefits from government programs related to environmental quality and clean energy for disadvantaged communities.³ Further, the Biden administration has signaled a desire to tackle its racial equity and environmental goals not only by enacting new regulatory programs, but also by improving environmental enforcement. Within its first one hundred days, the Biden administration issued an executive order specifically directing the U.S. Department of Justice (DOJ) “to develop a comprehensive environmental justice *enforcement* strategy” and EPA to “strengthen *enforcement* of environmental violations.”⁴ The stated goal of such an enforcement strategy will be to “provide timely remedies for systemic environmental violations and

² See *The Biden-Harris Administration Immediate Priorities*, THE WHITE HOUSE, <https://www.whitehouse.gov/priorities> (last visited Nov. 11, 2021).

³ See Shalanda Young, et al., *The Path to Achieving Justice40*, THE WHITE HOUSE (July 20, 2021), <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40>.

⁴ Exec. Order No. 14,008, *Tackling the Climate Crisis at Home and Abroad*, 86 Fed. Reg. 7619, 7631 (Jan. 27, 2021) (emphasis added).

contaminations, and injury to natural resources.”⁵ The question, of course, is how the federal government will actually achieve such a worthy goal, particularly when previous federal administrations have issued very similar executive orders on environmental justice and enforcement.⁶

This Article is one of three by this author that explores challenges with environmental enforcement.⁷ The first article, published in 2020, focuses on the final stage of environmental enforcement—remedies.⁸ It considers the many questions that arise when formulating remedies in environmental enforcement cases, including the purpose of the remedy, legal authority of the enforcer to get the remedy, and who benefits from the remedy. The second article, published in 2021, focuses on the beginning stage of environmental enforcement—how to find potential violations.⁹ It examines government agencies’ use of information gathering authority, including their ability to require monitoring and reporting to deter and detect potential cheating on environmental regulations. This article focuses on the middle stage of environmental enforcement—getting from detection to remedy. It argues that environmental violations are difficult to prove once identified, particularly when regulated entities can use multiple arguments, often as defenses, that the environmental legal and regulatory system itself provides.

In noting wide-ranging problems with environmental noncompliance by a variety of regulated entities, legal scholars,

⁵ *Id.* (emphasis added).

⁶ President Clinton signed Executive Order No. 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, on February 11, 1994. The Order instructs each federal agency to “make achieving environmental justice part of its mission” with specific attention to enforcement. *See* Exec. Order No. 12,898 at § 1-102(2), 59 Fed. Reg. 7629 (Feb. 16, 1994).

⁷ The author acknowledges that many aspects of environmental enforcement discussed in the three articles also apply to other areas of public sector-oriented enforcement, such as consumer protection, market manipulation, or civil rights. This series of articles, however, focuses on environmental enforcement issues, particularly government agency and citizen suit enforcement under major federal environmental laws dealing with pollution, natural resources, and energy delivery and efficiency.

⁸ *See generally* Seema Kakade, *Remedial Payments in Agency Enforcement*, 44 HARV. ENV’T L. REV. 117 (2020).

⁹ *See generally* Seema Kakade & Matt Haber, *Detecting Corporate Environmental Cheating*, 47 ECOLOGY L.Q. 771 (2020).

practitioners, and journalists have tried to understand the gaps in enforcement. Indeed, as many note, significant reasons for the challenges in environmental enforcement include lack of government agency resources and political pressures.¹⁰ At the detection stage alone, enforcement agencies need basic resources to conduct inspections at specific facilities.¹¹ Enforcement agencies also need significant resources, like advanced computer technology, to identify complex violations, patterns of non-compliance across industries, or attempts by regulated entities to outright cheat on environmental regulations. Moreover, enforcement agencies can face serious political challenges, particularly in pursuing remedies for enforcement violations. The Trump administration, for example, issued multiple policies limiting agency authority to seek penalties and injunctive relief in enforcement actions.¹²

Yet a continued focus on resource and political hurdles alone shortchanges the discussion about steeper challenges with environmental enforcement that relate to the legal and regulatory system itself.¹³ While environmental regulatory design may offer compliance flexibility for regulated entities, such flexibility often manifests in extensive exceptions and forgiving pollution limits, creating obstacles for actual enforcement.¹⁴ While environmental statutes

¹⁰ See Sadasivam, *supra* note 1 (discussing long-term decline in funding and shifting political priorities for environmental enforcement since the 1990s).

¹¹ For example, in an internal EPA memo from April 30, 2021, the EPA Acting Assistant Administrator for Enforcement told federal enforcement staff to increase its inspections and take action where state enforcement officials were not acting fast enough. See Kelsey Brugger, *Internal EPA Memo Urges Agents to Up Inspections*, E&E NEWS: GREENWIRE (May 4, 2021), <https://www.eenews.net/greenwire/2021/05/04/stories/1063731691> (“[I]f there is a situation where a community’s health may be impacted by noncompliance and our co-regulator is not taking timely or appropriate action, we should not hesitate to step in and take necessary action,” the memo reads.”).

¹² David J. Hayes, *The Vanishing Federal Role in Enforcing Our Environmental Laws*, REGUL. REV. (Oct. 12, 2020), <https://www.theregview.org/2020/10/12/hayes-vanishing-federal-role-enforcing-environmental-laws>.

¹³ CYNTHIA GILES, INTRODUCTION TO NEXT GENERATION COMPLIANCE: ENVIRONMENTAL REGULATION FOR THE MODERN ERA 3 (2020), <http://eelp.law.harvard.edu/wp-content/uploads/Cynthia-Giles-Intro-FINAL.pdf> (introducing a series of white papers on why the answer to enforcement challenges is in effective design of regulations).

¹⁴ Marshal J. Breger, *Regulatory Flexibility and the Administrative State*, 32 TULSA L.J. 325, 348–49 (1996).

may provide enforcement authority for federal agencies, state agencies, and citizen groups, in reality, the preemption and preclusion doctrines often impede actual enforcement.¹⁵ Regulatory and legal hurdles hinder environmental enforcement just as much as resource and political hurdles. Moreover, resource and political hurdles are often intertwined with regulatory and legal hurdles.

The point of this Article is not to suggest that there should be no hurdles to environmental enforcement. Indeed, there are good reasons that regulatory flexibility, evidentiary standards, and the preemption and preclusion doctrines exist.¹⁶ It is important, however, to acknowledge that such hurdles exist and manifest as powerful defenses for regulated entities that become defendants in enforcement matters.¹⁷ Without an acknowledgment of real hurdles in enforcement, broader conversations around strengthening environmental enforcement cannot go beyond—albeit important—resource concerns. The defense, for example, of “the environmental regulation allows me to pollute” is a tough one for any enforcement agency to manage, even with all the resources and political support in the world.¹⁸ Without acknowledging such a barrier, local communities have difficulty grasping the reasons behind why environmental enforcement fails to meet their hopes and expectations for clean-up of pollution. Without acknowledging real hurdles to enforcement, regulated entities that seek a level playing field in enforcement activity will continue to be frustrated.¹⁹

¹⁵ See, e.g., *Sierra Club v. Two Elk Generation Partners, L.P.*, 646 F.3d 1258, 1264 (10th Cir. 2011); *Empire Pipeline v. Town of Pendleton*, 472 F. Supp. 3d 25, 46–47 (W.D.N.Y. 2020).

¹⁶ See *infra* Part II.

¹⁷ See *infra* Part II.

¹⁸ See Stuart Parker, *EPA Faults Texas Air Permits Amid Looming Fights Over Trump-Era Policy*, INSIDE EPA (Aug. 9, 2021), <https://insideepa.com/daily-news/epa-faults-texas-air-permits-amid-looming-fight-over-trump-era-policy> (“EPA Administrator Michael Regan in recent decisions has twice faulted Texas air regulators for their failure to ensure state-issued air quality permits are fully enforceable but the instant disputes did not present an opportunity for the agency to address environmentalists’ broader calls to reverse a Trump-era policy of deferring to state permit decisions.”).

¹⁹ See generally Seema Kakade & Matt Haber, *Detecting Corporate Environmental Cheating*, 47 *ECOLOGY L.Q.* 771 (2020) (discussing the role of enforcement in promoting fair competition within specific industrial sectors).

Several environmental statutes, regulations, and guidance documents explicitly include the concept of “enforceability.” Such inclusion demonstrates an intent by drafters to create environmental laws that can actually be enforced. For example, environmental statutes like the Clean Air Act (CAA) and the Clean Water Act (CWA) require states to have plans for implementation of pollution programs that are “enforceable.”²⁰ Guidance implementing the National Environmental Policy Act (NEPA) refers to “enforceable” mitigation measures during the environmental review process for major federal actions.²¹ Further, pollution trading programs, such as in greenhouse gas regulation, require that credits be quantifiable, verifiable, permanent, and “enforceable.”²² As this Article describes, the term “enforceable” has limited meaning without recognition of the hurdles in the way to actual enforcement.

This Article proceeds in four Parts. Part I provides background on environmental regulations, compliance, noncompliance, and enforcement as related but distinct topics. Part II describes the resource, regulatory, and legal hurdles that enforcers face in pursuing environmental violations, particularly as related to pollution—and pollution abatement—standards. Part III demonstrates how enforcement hurdles manifest in one case study of significant environmental noncompliance: tampering with air emissions controls on cars and trucks. Part IV identifies the term “enforceable” and its usage in key federal environmental statutes and argues for a consistent and deliberate use of the term in a way that reflects an understanding of the hurdles that arise as arguments later, in enforcement cases. The Article concludes with remarks on the broader applicability of environmental enforceability in the international context.

²⁰ 42 U.S.C. §§ 7410(a)–(k); 42 U.S.C. §§ 7404(a)–(e).

²¹ Memorandum from Nancy H. Sutley, Chair, Council on Env’t Quality, to Heads of Federal Departments and Agencies (Jan. 14, 2011) https://www.energy.gov/sites/prod/files/2017/06/f35/NEPA-CEQ_Mitigation_and_Monitoring_Guidance_14Jan2011.pdf (“This guidance approves of the use of the ‘mitigated FONSI’ when the NEPA process results in *enforceable* mitigation measures.”).

²² See, e.g., Sacramento Carbon Exchange Program Rule 250-301 (Mar. 25, 2010), <http://www.airquality.org/ProgramCoordination/Documents/rule250.pdf> (“To be certified as carbon credits, the emission reductions shall meet the requirements of an approved protocol for a specific project type and consider any Sacramento specific conditions or requirements to be real, additional, quantifiable, verifiable, permanent, and enforceable.”).

I. BACKGROUND

It is impossible to talk about environmental enforcement without first understanding a bit about the historical and current context of environmental regulation and compliance with such regulation. Enforcement only exists if there is a law or regulation to enforce in the first place. Enforcement also only exists if there is noncompliance, but, as this Part describes, identifying and proving noncompliance is often complicated. Such an understanding is important for ultimately addressing enforcement hurdles.

A. Law and Regulation

In the United States, the current model of environmental regulation focuses heavily on reducing costs for industry. Presidents Ford and Carter made inroads in the 1970s to advance environmental protection through new laws and regulations. However, as scholars have noted, all social and economic regulation received significant pushback in the twentieth century in response to the “expansion of regulation that occurred during the New Deal and postwar periods.”²³ President Reagan pursued a comprehensive policy of regulatory pushback by consolidating regulatory oversight in the Office of Management and Budget (OMB) and requiring agencies to “justify proposed rules on the basis of the relative costs and benefits they were expected to generate.”²⁴ To this day, cost-benefit analysis has shaped a federal environmental regulatory system that is complex and varied in its requirements.

As described in Table 1 below, federal environmental regulations involve a mix of different kinds of regulated entities and government agencies.²⁵ An environmental regulation may issue from a federal agency across any number of subject-specific executive

²³ Jodi L. Short, *The Paranoid Style in Regulatory Reform*, 63 HASTINGS L.J. 633, 639–40 (2012).

²⁴ *Id.*; See Helen G. Boutros, *Regulatory Review in the Obama Administration: Cost-Benefit Analysis for Everyone*, 62 ADMIN. L. REV. 243, 255–56 (2010); Daniel A. Farber, *Regulatory Review in Anti-Regulatory Times*, 94 CHI.-KENT L. REV. 383, 387 (2019).

²⁵ Table 1 largely adapts from a 1995 document assessing mechanisms for how government encourages or forces facilities to achieve society’s environmental goals. See generally U.S. CONG. OFF. OF TECH. ASSESSMENT, ENVIRONMENTAL POLICY TOOLS: A USER’S GUIDE 10–11 tbl.1-1 (1995), <https://ota.fas.org/reports/9517.pdf>.

branch mission areas, including environment, securities, consumer protection, zoning, and energy. An environmental regulation may target an industry entity as the regulated entity, but also might target a government agency entity.²⁶ An environmental regulation may include substantial requirements for regulated entities, such as mandating significant capital expenditures for pollution control equipment, or may merely include recordkeeping requirements.²⁷ Further complicating Table 1 is the fact that the listed types of environmental regulations are not mutually exclusive, but rather overlap and intertwine.

Table 1: Common Types of Federal Environmental Regulations

Type	Description
Performance-Based	Describe required end results, leaving regulated entities free to choose compliance methods.
Design	Describe required emissions limits based on what a model technology might achieve; regulated entities use the model technology or demonstrate that another approach achieves equivalent results.
Technology	Specify the technology or technique a regulated entity must use to control its pollution.
Integrated Permitting	Incorporate multiple requirements into a single permit rather than having a permit for each individual emissions source at a facility.
Trackable Emissions	Allow regulated entities to trade emission control responsibilities among themselves,

²⁶ See G. Nelson Smith, III, *Lawmaker as Lawbreaker: Enforcement Actions Against Municipalities for Failure to Comply with the Clean Air Act*, 41 CLEV. ST. L. REV. 685, 712 (1993).

²⁷ See, e.g., *Prevention of Significant Deterioration Basic Information*, EPA, <https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information> (last visited Sept. 27, 2021) (discussing regulatory requirements that require installation of pollution controls); *Recordkeeping and Reporting Requirements for Stationary Refrigeration*, EPA, <https://www.epa.gov/section608/recordkeeping-and-reporting-requirements-stationary-refrigeration> (last visited Oct. 5, 2021) (discussing regulations that require recordkeeping and reporting).

	provided the aggregate regulatory cap on emissions is met.
Challenge Regulations	Give target group of sources responsibility for designing and implementing a program to achieve a target goal, with a government-imposed program or sanction if goal is unmet by the deadline.
Pollution Charges	Require regulated entities to pay a fixed dollar amount for each unit of pollution emitted or disposed; no ceiling on emissions.
Liability	Require entities causing pollution that adversely affects others to compensate those harmed to the extent of the damage.
Pollution Information Reporting	Require entities to report—either publicly or in response to a government subpoena—emissions, discharge, or product information.
Bans	Ban or restrict manufacture, distribution, use, or disposal of products that present unreasonable risks.
Environmental Review	Require government agencies—or, indirectly, industry project applicants—to assess the environmental impact of proposed projects that receive government funding.
Corporate Disclosure	Require certain private corporate entities to disclose risks to shareholders and in securities filings.
Environmental Advertising	Require truth in advertising regarding environmental attributes of products.

B. *Noncompliance*

The complexity of environmental regulations makes for an even more complex picture of noncompliance with those regulations. Certainly, some legal scholars have opined that particular types of environmental regulations may allow for higher rates of noncompliance than other types of regulation.²⁸ For example,

²⁸ See Cary Coglianese, *The Limits of Performance Based Regulation*, 50 U. MICH. J.L. REFORM 525, 558–59 (2017) (performance-based measures depend on the ability of government agencies to specify, measure, and monitor performance,

compliance with paperwork, e.g., recordkeeping and reporting, regulations may be very different than compliance with physical, e.g., disposal and discharge, regulations.²⁹ Moreover, the many kinds of noncompliance that exist, from mistakes to outright cheating, mean that noncompliance data alone does not always give a complete picture. In general, there is simply no easy way to assess broad-level noncompliance rates because doing so is always dependent upon so many factors.³⁰

First, noncompliance rates depend on information.³¹ Determining compliance rates is much easier for environmental statutes and regulations that require self-monitoring and self-reporting of violations than for those that do not.³² Indeed, Cynthia Giles, the former head of compliance and enforcement at EPA in the Obama administration, has stressed the importance of established and reliable measurement systems in ensuring compliance with environmental regulations.³³ Scholars that discuss enforcement have also typically

and reliable and appropriate information about performance may sometimes be difficult or impossible to obtain); Lesley K. McAllister, *Putting Persuasion Back in the Equation: Compliance in Cap and Trade Programs*, 24 PACE ENV'T L. REV. 299, 309 ("Compliance under the Clean Air Act was more difficult to assess than under other traditional technology-based regulation such as the Clean Water Act, in part because permits were not required for individual sources[.]").

²⁹ See J.B. Ruhl, et al., *Environmental Compliance: Another Integrity Crisis or Too Many Rules?*, 17 NAT. RES. & ENV'T 24, 25 (2002).

³⁰ See CYNTHIA GILES, NEXT GENERATION COMPLIANCE: ENVIRONMENTAL REGULATION FOR THE MODERN ERA PART 2: NONCOMPLIANCE WITH ENVIRONMENTAL RULES IS WORSE THAN YOU THINK 5 (2020), <http://eelp.law.harvard.edu/wp-content/uploads/Cynthia-Giles-Part-2-FINAL.pdf>.

³¹ See Michael E. Wall, *Is There a Proper Level of Compliance with Environmental Law?*, 39 ABA TRENDS 13 (2008).

³² See EPA OFF. OF THE INSPECTOR GEN., CLEAN AIR ACT FACILITY EVALUATIONS ARE CONDUCTED, BUT INACCURATE DATA HINDER EPA OVERSIGHT AND PUBLIC AWARENESS 1 (2007) (noting how insufficient or absent data frustrates EPA's ability to effectively evaluate compliance). In a 2007 report, EPA OIG recognized that the lack of mandatory reporting of compliance data collected by the States inhibited EPA's ability to create nationwide compliance statistics. See EPA OFF. OF THE INSPECTOR GEN., OVERCOMING OBSTACLES TO MEASURING COMPLIANCE: PRACTICES IN SELECTED FEDERAL AGENCIES 11–13 (2007); D.R. van der Vaart & John C. Evans, J.D., *Compliance Under Title V: Yes, No, or I Don't Know?*, 21 VA. ENV'T L. J. 22–24 (2002) (describing data reporting in demonstrating compliance under Title V of CAA).

³³ See CYNTHIA GILES, NEXT GENERATION COMPLIANCE: ENVIRONMENTAL REGULATION FOR THE MODERN ERA PART I: RULES WITH COMPLIANCE BUILT IN 4 (2020), <http://eelp.law.harvard.edu/wp-content/uploads/Cynthia-Giles-Part-1->

focused on monitoring tools for agency enforcers to achieve goals, emphasizing tools such as electronic reporting and third-party verification.³⁴ For example, publicly available monitoring and reporting of water discharges for a variety of pollutants has generated robust noncompliance data in the context of CWA violations.³⁵ In contrast, because monitoring and reporting is not always required under the CAA, there is not a readily available way to identify the extent of a regulated entity's compliance and noncompliance with respect to air permits.³⁶ Much of the data on noncompliance is anecdotal, coming from inspectors and news stories.³⁷

Second, because environmental regulations allow significant latitude on what qualifies as a "requirement" to begin with, noncompliance is tough to assess. When an environmental regulation undergoes a cost-benefit analysis, the costs to the regulated entities must be evaluated. Accordingly, a key goal of the regulation becomes finding ways to make compliance easier for those entities.³⁸ Simply put, compliance with environmental regulations is expensive, and providing flexibility for regulated entities on how, when, and where

FINAL.pdf (describing continuous emission monitoring systems (CEMS) as the hallmark of strong compliance with acid rain regulations).

³⁴ See David L. Markell, et al., *Dynamic Governance in Theory and Practice, Part I*, 58 ARIZ. L. REV. 563, 569–70 (2016).

³⁵ See, e.g., JAY SHIMSHACK, *MONITORING, ENFORCEMENT, & ENVIRONMENTAL COMPLIANCE: UNDERSTANDING SPECIFIC & GENERAL DETERRENCE* (2009); Clifford Rechtschaffen, *Enforcing the Clean Water Act in the Twenty-First Century: Harnessing the Power of the Public Spotlight*, ALA. L. REV. 775, 802–05 (2004) (discussing efficacy of EPA ECHO's online reporting site in assessing noncompliance).

³⁶ See Adam Babich, *The Unfilled Promise of Effective Air Quality and Emissions Monitoring*, 30 GEO. ENV'T L. REV. 569, 590 (March 2018). Facilities subject to Title V of the CAA, however, require compliance certifications and reporting of deviations. See 40 C.F.R. § 70.6 (2020) (listing EPA air programs permit requirements).

³⁷ See, e.g., Sharon Buccino & Steve Jones, *Controlling Water Pollution from Coalbed Methane Drilling: An Analysis of Discharge Permit Requirements*, 4 WYO. L. REV. 559, 576 (2004) (citing to a news article discussing an inspector's ability to perform a compliance inspection on each coalbed methane site only once during the five-year lifetime of the relevant water permit).

³⁸ See David M. Driesen, *Distributing the Costs of Environmental, Health, and Safety Protection: The Feasibility Principle, Cost-Benefit Analysis, and Regulatory Reform*, 32 B.C. ENV'T AFF. L. REV. 1, 3, 12 (2005).

to comply eases the expense.³⁹ As a result, some environmental regulations impose voluntary standards instead of actual requirements or allow regulated entities to pay to pollute. Even where there are requirements, some environmental regulations provide freedom of choice for regulated entities on how to comply with the requirements or how to demonstrate compliance.⁴⁰ Some environmental statutes explicitly allow environmental permit holders to request variances from a permit limit or make the permit conditions broad enough to cover any flexibility that a regulated facility might argue it needs.⁴¹

Third, part of the complication in assessing noncompliance with environmental regulations is that the compliance metric often does not relate directly to actual pollution. Noncompliance with an information disclosure regulation means that a regulated entity failed to report data.⁴² Noncompliance with a recordkeeping regulation means that a regulated entity failed to properly keep or show specific documentation.⁴³ Noncompliance with an agency environmental review regulation means that the agency did not conduct an adequate analysis.⁴⁴ Thus, even though the terms “noncompliance” or “violation” conjure images of excess pollution, particularly when

³⁹ See e.g., Caroline Cecot, *Regulatory Fracture Plugging: Managing Risks to Water from Shale Development*, 6 TEX. A&M L. REV. 29, 44 (recommending that State regulators use cost-benefit analysis to create flexible standards for the natural gas industry).

⁴⁰ See Dalia Patino-Echeverri, *Feasibility of Flexible Technology Standards for Existing Coal Fired Power Plants and their Implications for New Technology Development*, 61 UCLA L. REV. 1896, 1920–28 (discussing, for example, the concept of alternative compliance payments in CAA regulation).

⁴¹ See DIETRICH EARNHART ET AL., DISCRETIONARY EXEMPTIONS FROM ENVIRONMENTAL REGULATION: FLEXIBILITY FOR GOOD OR FOR ILL 6–7 (2019), <https://www.rff.org/publications/working-papers/discretionary-exemptions-environmental-regulation-flexibility-good-or-ill>.

⁴² See, e.g., Press Release, U.S. Dep’t of Just., Toyota Motor Company to Pay \$180 Million in Settlement for Decade Long Noncompliance with CAA Reporting Requirements (Jan. 14, 2021), <https://www.justice.gov/opa/pr/toyota-motor-company-pay-180-million-settlement-decade-long-noncompliance-clean-air-act>.

⁴³ See, e.g., Reference News Release, EPA, Corporate-Wide Settlement with Lowe’s Protects Public from Lead Pollution During Home Renovations, (Apr. 17, 2014), <https://www.epa.gov/enforcement/reference-news-release-corporate-wide-settlement-lowes-protects-public-lead-pollution>.

⁴⁴ See *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 756–57 (2004).

discussing pollution and exposure for communities, this is not always the case.

Fourth, society places varying values on different kinds of non-compliance, further complicating noncompliance assessments. Indeed, some law and economics scholarship suggest that certain laws, e.g., non-criminal laws, are mere costs of doing business, meaning a certain amount of deliberate noncompliance should be encouraged when it satisfies a corporation's fiduciary responsibility to maximize profitability.⁴⁵ Willful noncompliance or fraud by regulated entities may foster a different societal sentiment than failure to comply by those entities that simply cannot afford to do so.⁴⁶ Moreover, certain noncompliance that is longer in time, greater in amount, or more acute or toxic may be more concerning than other kinds of noncompliance.⁴⁷ Thus, while noncompliance is a single term, it hardly denotes a single idea.

C. Enforcement

When regulated entities fail to comply, or worse, cheat or commit fraud, enforcement needs to step in.⁴⁸ Widespread noncompliance threatens the achievement of the underlying public health and

⁴⁵ See Judd F. Sneirson, *Shareholder Primacy and Corporate Compliance*, 26 *FORDHAM ENV'T L. REV.* 450, 450 (2015).

⁴⁶ See KRISTI PULLEN FEDINICK ET AL., *WATERED DOWN JUSTICE* 33 (2019), <https://www.nrdc.org/sites/default/files/watered-down-justice-report.pdf> (noting difference between willful non-compliance by water utilities versus those that want to comply but have financial inability to do so and thus need grant funding); see also Sneirson, *supra* note 45, at 461 (“And to the extent firms find themselves out of compliance, it seems to be more a function of not understanding often-complex laws than a conscious choice to flout the law in order to maximize profits.”).

⁴⁷ See FEDINICK ET AL., *supra* note 46, at 5–7 (between 2016 and 2019, 40% of Americans “obtained their water from drinking water systems” that were in violation of the Safe Drinking Water Act and the percentage of water systems in chronic noncompliance was “40 percent higher in counties with the highest racial, ethnic, and language vulnerability compared to counties with the lowest racial, ethnic, and language vulnerability”); see also Manju Menon & Kanchi Kohli, *Regulatory Reforms to Address Environmental Non-Compliance*, *CTR. FOR POL'Y RSCH.* 44–45 (2019) (discussing “large-scale legal violations in specific sectors such as mining”).

⁴⁸ See David L. Markell & Robert L. Glicksman, *Dynamic Governance in Theory and Application*, 58 *ARIZ. L. REV.* 563, 581 (pointing to an example of effective enforcement in a Norwegian study finding that parties audited by regulators were 37% less likely to be in noncompliance the following year).

natural resource benefits that a given regulation hopes to achieve.⁴⁹ For example, when multiple countries adopted strict fuel standards for oceangoing vessels, many expected that the health benefits anticipated by the standards would never come to fruition because of rampant expected noncompliance.⁵⁰ In addition, while some may assume that regulated entities relish the opportunity to avoid compliance—and some likely do—a lack of enforcement can also create uncertainty in the overall marketplace, which ultimately hurts regulated entities.⁵¹ For example, as EPA’s Deputy Inspector General noted in May 2021, a decline in environmental enforcement actions means that violators get “an unfair competitive advantage over other regulated entities that comply with environmental regulations.”⁵² Thus, some enforcement regime must exist to keep noncompliance in check.⁵³

Indeed, most federal statutes with a regulatory focus provide certain “enforcers” with legal authority to bring environmental enforcement actions. Federal statutes certainly provide federal and state government enforcers with authority to bring enforcement actions against regulated entities in order to obtain injunctive relief and penalties.⁵⁴ Federal statutes also allow private individuals to step into the shoes of government enforcers via citizen suits by bringing enforcement actions against regulated entities in order to

⁴⁹ See GILES, *supra* note 13, at 3.

⁵⁰ See JACK JORDAN & PAUL HICKIN, TACKLING 2020: THE IMPACT OF THE IMO AND HOW SHIPOWNERS CAN DEAL WITH TIGHTER SULFUR LIMITS 8 (2017) (describing that at an industry conference, “more than 30% of respondents to a poll said there would be some degree of non-compliance in emission control areas in 2020”).

⁵¹ See, e.g., Riveria Newsletters, Opinion, *Emissions Monitoring: Maintaining a Level Playing Field Post-2020*, RIVERIA (Sept. 17, 2018), <https://www.rivieramm.com/opinion/opinion/emissions-monitoring-maintaining-a-level-playing-field-post-2020-23341> (“Compliance with the sulphur cap with [sic] be challenging enough in itself, but a further concern involves the competitive advantage gained from illegal non-compliance”).

⁵² Kelsey Brugger, *Watchdog: Enforcement Inspections, Monitoring Plummeted*, E&E NEWS, May 13, 2021.

⁵³ See David Markell, et al., *A Holistic Look at Agency Enforcement*, 93 N.C. L. REV. 1, 11–12 (2014).

⁵⁴ See, e.g., 42 U.S.C. § 7413 (CAA federal enforcement); 33 U.S.C. § 1319 (CWA federal enforcement); 42 U.S.C. § 6928 (RCRA federal enforcement).

obtain injunctive relief and penalties.⁵⁵ In addition, federal statutes authorize administrative enforcement actions through administrative hearing officers and administrative law judges.⁵⁶ Such administrative environmental enforcement occurs in a variety of administrative court functions, in front of zoning boards, pollution control boards, water boards, and others.⁵⁷ There is indeed plenty of enforcement authority available.

Yet, despite the availability of enforcement authority, it is strikingly lacking as a tool to deal with noncompliance. For years, EPA's Office of Inspector General (OIG) has discussed concerns over underperformance of environmental enforcement in the face of significant noncompliance.⁵⁸ In 2011, the OIG specifically noted that "[s]tate enforcement programs are underperforming: EPA data indicate that noncompliance is high and the level of enforcement is low."⁵⁹ The most recent report by EPA's Inspector General in May 2021 found that from 2006 to 2018, EPA's enforcement office reported a decline in enforcement activities.⁶⁰ The questions for this Article are why enforcement is deficient and how to strengthen enforcement in the long term.

II. HURDLES TO ENFORCEABILITY

This Part focuses on existing hurdles in environmental enforcement. In particular it discusses resource and political, regulatory,

⁵⁵ The individual acts as a private attorney general, where such individual simulates an attorney general, acting as the advocate for a group, but solely for a group of private persons.

⁵⁶ Joseph J. Lisa, *EPA Enforcement Actions: An Introduction to the Consolidated Rules of Practice*, 24 TEMP. J. SCI. TECH. & ENV'T L. 1, 8, 41 (2005).

⁵⁷ See, e.g., Joseph F. Guida & Jean M. Flores, *From Here to a Penalty: Anatomy of EPA Civil Administrative Enforcement*, 43 TEX. ENV'T L.J. 129, 132 (2013); N.Y. DIV. OF LOCAL GOV. SERV., JAMES A. COON LOCAL TECHNICAL SERIES: ZONING BOARD OF APPEALS 28–29 (Sept. 2021), <https://dos.ny.gov/system/files/documents/2021/09/zoning-board-appeals-.pdf>; *Mission Statement*, ILL. POLLUTION CONTROL BD., <https://pcb.illinois.gov/AboutIPCB/MissionStatement> (last visited Nov. 22, 2021); *Office of Enforcement*, CAL. WATER BD., (last updated Feb. 24, 2021), https://www.waterboards.ca.gov/water_issues/programs/enforcement.

⁵⁸ See David L. Markell & Robert L. Glicksman, *Dynamic Governance in Theory and Application: Part I*, 58 ARIZ. L. REV. 563, 590–91 (2016).

⁵⁹ *Id.* at 591.

⁶⁰ See Brugger, *supra* note 52.

and legal difficulties, as distinct, and also intertwined hurdles to enforceability of environmental law. The purpose in describing these hurdles is to provide an overview of the quantity and complexity of issues that must be addressed in order to achieve long-term and real enforcement.

A. Resource and Political Hurdles

As this Article and many others have noted, a real reason for enforcement's lackluster performance is resource hurdles.⁶¹ For example, in a specific study on the CAA, Professor Victor Flatt looked at self-reported compliance data from regulated entities in the early 2000s to show that state spending per capita directly affects the length of time a regulated facility is in violation of the CAA.⁶² In essence, the environmental enforcement system simply has far too much on its plate to keep up; "a handful of enforcers will never be able to ensure general compliance at millions of facilities."⁶³ As noted by Joel Mintz, a legal scholar on environmental enforcement, at a 2017 symposium, EPA and the states are now responsible for regulating "a much larger universe of pollution sources than was true in previous years," and in a wider array of new program areas.⁶⁴ Core functions of enforcement, like records review and inspection, are simply too expensive to undertake consistently and comprehensively.⁶⁵

There are plans for an increased enforcement budget in the Biden administration. EPA's proposed \$11.2 billion budget request for fiscal year 2022, for example, includes plans to "hold bad actors accountable for their violations, with a particular focus in

⁶¹ See Jonathan Remy Nash et al., *The Production Function of the Regulatory State, How Much do Agency Budgets Matter*, 102 MINN. L. REV. 695, 709 (2017) (noting that even though decreases in budgets may not affect environmental quality, they certainly affect enforcement).

⁶² See Victor B. Flatt et al., *Environmental Enforcement in Dire Straits: There is No Protection for Nothing and No Data for Free*, 85 NOTRE DAME L. REV. 55, 82 (Nov. 2009).

⁶³ GILES, *supra* note 33, at 3.

⁶⁴ See Symposium, *The Future of Environmental Enforcement*, 47 ENV'T L. REP. 10206, 10209–10 (2017) (remarks by Joel Mintz).

⁶⁵ See Lucas Satterlee, *Climate Drones: A New Tool for Oil and Gas Air Emission Monitoring*, 46 ENV'T L. REP. 11069, 11073–74 (2016) (discussing drones for use in enforcement inspections to check compliance with the CAA in the oil and gas sector).

communities with multiple pollution sources.”⁶⁶ Yet EPA, even with increased budgets, relies heavily on state enforcement activities, and state enforcement budgets have also seen a significant decline in recent years.⁶⁷ As described in one study, states bring about ninety percent of environmental enforcement actions each year, and yet “only eight states had satisfied an EPA goal that all major air pollution emitters be inspected every two years and only two states had satisfied an EPA goal that all large-quantity generators of hazardous waste be inspected every five years.”⁶⁸ Further, given history as a guide, budgets are likely to change again in the future, meaning that resources will continue to remain a significant hurdle for effective environmental enforcement.⁶⁹

Moreover, political hurdles undoubtedly impede environmental enforcement policy.⁷⁰ In the context of enforcement provisions in environmental permits, EPA has either allowed federal objections to state permits or disallowed any federal “second-guessing” of state permit terms, depending on the political administration in power.⁷¹

⁶⁶ EPA, FY 2022 EPA BUDGET IN BRIEF 11 (2021), <https://www.epa.gov/sites/production/files/2021-05/documents/fy-2022-epa-bib.pdf>.

⁶⁷ EPA, OFF. OF INSPECTOR GEN., REPORT NO. 12-P-0113, EPA MUST IMPROVE OVERSIGHT OF STATE ENFORCEMENT 1-5 (2011), <https://www.epa.gov/sites/default/files/2015-10/documents/20111209-12-p-0113.pdf> (“While EPA serves as the steward of many national environmental policies, it relies on states to do the bulk of environmental enforcement.”); ENV’T INTEGRITY PROJECT, *During a Time of Cutbacks at EPA, 30 States Also Slashed Funding for State Environmental Agencies* (Dec. 5, 2019), <https://environmentalintegrity.org/news/state-funding-for-environmental-programs-slashed>.

⁶⁸ INST. FOR POL’Y INTEGRITY, IRREPLACEABLE: WHY STATES CAN’T AND WON’T MAKE UP FOR INADEQUATE ENFORCEMENT OF ENVIRONMENTAL LAWS 1–2 (2017), https://policyintegrity.org/files/media/EPA_Enforcement_June2017.pdf.

⁶⁹ See Symposium, *supra* note 64, at 10209 (Professor Joel Mintz has also stated “to pursue civil environmental enforcement in an effective fashion, EPA needs generally adequate budgetary resources and a sufficient number of qualified enforcement personnel.”).

⁷⁰ See, e.g., ERIC SCHAEFFER & TOM PELTON, ENVIRONMENTAL INTEGRITY PROJECT, PAYING LESS TO POLLUTE: A YEAR OF ENVIRONMENTAL ENFORCEMENT UNDER TRUMP 6 (2018), <https://www.environmentalintegrity.org/wp-content/uploads/2017/02/Enforcement-Report.pdf> (discussing changes in environmental enforcement across multiple federal administrations).

⁷¹ Stuart Parker, *EPA Faults Texas Air Permits Amid Looming Fight Over Trump Era Policy*, INSIDEEPA (Aug. 9, 2021), <https://insideepa.com/daily-news/epa-faults-texas-air-permits-amid-looming-fight-over-trump-era-policy>.

For example, under the Obama administration, EPA's practice had been to allow objections to state-issued permits, including where the permits had weak enforcement provisions.⁷² Yet, under the Trump administration, EPA established a policy that EPA cannot "second guess" a state's permitting decisions.⁷³ EPA has also changed its position across differing federal administrations with regards to remedies available in enforcement matters, specifically supplemental environmental projects and mitigation.⁷⁴ Other enforcement policies that have changed over political administrations involve limiting non-criminal enforcement actions to cases that involve intentional wrongdoing, "encouraging restraint in pursuing criminal charges," and preventing the "pursuit of civil penalties in cases where states had already acted."⁷⁵

Legal scholarship has certainly acknowledged political hurdles in environmental enforcement. Professor Joel Mintz has discussed that even though environmental enforcement should be a professional activity, partisan politics plays a significant role.⁷⁶ Professor Caroline Cecot has noted that a federal administration's particular stance on enforcement, particularly involving statements of nonenforcement, changes the perceived threat of federal enforcement, thereby impacting state enforcement.⁷⁷ Professors Uma Outka and Elizabeth Kronk Warner have described the changes in federal initiation of new enforcement actions under Presidents Bush, Obama,

⁷² See Stuart Parker, *Environmentalists Urge EPA to 'Disavow' Trump Title V Air Permit Policy*, INSIDE EPA (Mar. 15, 2021), <https://insideepa.com/daily-news/environmentalists-urge-epa-disavow-trump-title-v-air-permit-policy> (discussing Texas state permits that have repeatedly come under attack by environmental groups for failing to include stringent terms, including enforcement related terms).

⁷³ Parker, *supra* note 71.

⁷⁴ See STACEY H. MITCHELL, AKIN GUMP ET AL., *TEARING DOWN TRUMP'S ENVIRONMENTAL WALL: JUSTICE DEPARTMENT DITCHES IMPEDIMENTS TO EFFECTIVE ENFORCEMENT 1* (2021), <https://www.akingump.com/a/web/e4caGGUA66Tz3X2XgBzqEb/2mSQE8/environment-alert.pdf>.

⁷⁵ See *id.*

⁷⁶ See Symposium, *supra* note 64, at 10209.

⁷⁷ See Caroline Cecot, *Filling the Federal Enforcement Gap*, 33 NAT. RES. AND ENV'T 36, 38 (2019).

and Trump.⁷⁸ Yet, as Professor Jodi Short notes, the role of politics features much more prominently in regulatory scholarship on agenda setting, rulemaking, policy adoption, policy diffusion, and institutional design, rather than in the areas of enforcement and compliance.⁷⁹

B. Regulatory Design Hurdles

There has been even less attention paid to the way in which regulatory hurdles impact environmental enforcement than to resource and political hurdles. Yet, environmental enforcers struggle with regulatory hurdles that stem from “flexibility” for regulated entities. Such flexibility can come in multiple forms, including providing exceptions for specific classes of regulated entities and setting pollution standards that are voluntary rather than numeric.⁸⁰ Providing flexibility is a key way in which executive branch agencies reduce the cost for regulated entities to comply with new environmental regulations.⁸¹ However, flexibility in regulatory design also hinders enforcement efforts by requiring enforcers to overcome affirmative defenses raised by regulated entities early on in litigation proceedings. Thus, while some may focus on the need for greater resources in order to improve the state of environmental enforcement, resources alone will not improve the number or value of remedies actually achieved in enforcement cases. Clear and easy regulatory defenses simply stand too tall in the enforcer’s path.

Exceptions translate into clear affirmative defenses in enforcement cases. For example, EPA, states, and citizen enforcers grappled with multiple exceptions in the 2002 New Source Review

⁷⁸ See Uma Outka & Elizabeth Kronk Warner, *Reversing Course Under the Trump Administration on Environmental Justice*, 54 WAKE FOREST L. REV. 393, 406 (2019).

⁷⁹ See Jodi L. Short, *The Politics of Regulatory Enforcement and Compliance: Theorizing and Operationalizing Political Influences*, 15 REGUL. & GOVERNANCE 653, 656 (2019).

⁸⁰ See Marshall J. Breger, *Regulatory Flexibility and the Administrative State*, 32 TULSA L.J. 325, 326–27 (1996).

⁸¹ See EPA, *Building Flexibility with Accountability Into Clean Air Programs*, <https://www.epa.gov/clean-air-act-overview/building-flexibility-accountability-clean-air-programs> (“In designing clean air programs, EPA strives to provide companies with flexibility on ways to comply while ensuring accountability for environmental performance. This often makes it possible to achieve greater health and environmental protection at lower overall cost.”) (last visited Nov. 21, 2021).

regulations that changed permitting requirements for new and modified large sources of air pollution.⁸² In enforcement cases alleging violations of the 2002 regulations, defendants made regular and far-reaching arguments that modifications made to facilities fit within the “routine maintenance” exception and hence did not need a permit.⁸³ In one enforcement case, the defendant, operator of a coal-fired power plant, argued that life-extension modifications that cost millions of dollars were “routine” and thus fell under the exception.⁸⁴ In another enforcement case alleging violations of the 2002 regulations, another defendant-operator of a coal-fired power plant argued that all modifications fell within the exception.⁸⁵

Moreover, exceptions can embed in compliance determinations, making it easy for defendants to escape liability. For example, air permits that set limits for emissions coming from facilities will often exclude emissions that the facility generates during startup, shutdown, and malfunction periods of facility operation.⁸⁶ Such startup, shutdown, and malfunction emissions can be significant and simply go unmeasured and unaccounted for in the permit. In other situations, the way in which facilities measure compliance can allow for excusable exceedances. A permit may allow a facility that meets an emission limit ninety-five percent of its operating time to be considered “in compliance.”⁸⁷ During the other five percent of the time, the facility can exclude emissions when monitors might be in testing or failure, if there is a facility upset condition, or when the pollution control equipment is going through cleaning.⁸⁸ While such “excused” emissions may seem reasonable when drafting a permit, they

⁸² See Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR), 67 Fed. Reg. 80,186, 80,193–94 (Dec. 31, 2002).

⁸³ For an excellent student note on the routine exception’s implications in enforcement cases, see Graham Zorn, Note, *Prevention of Significant Deterioration and Its Routine Maintenance Exception: The Definition of Routine, Past, Present, and Future*, 33 VT. L. REV. 783, 791–93 (2009).

⁸⁴ Wis. Elec. Power Co. v. Reilly, 893 F.2d 901, 906 (7th Cir. 1990).

⁸⁵ See United States v. DTE Energy Co., 711 F.3d 643, 648 (6th Cir. 2013).

⁸⁶ See Nat. Res. Def. Council v. Ill. Power Res., LLC, 202 F. Supp. 3d 859, 882, 884 (C.D. Ill., 2016) (pointing out that defendants argued that “the vast majority of the exceedances at issue are excusable” under the Illinois SIP “because they occurred during periods of malfunction and breakdown,” and noting several other states with similar provisions, including Georgia and Texas).

⁸⁷ United States v. La. Pacific Corp., 908 F. Supp. 835, 839 (1995).

⁸⁸ See *id.*

often become easy defenses for defendants in enforcement cases that later allege noncompliance.⁸⁹

Further, under certain federal environmental laws, once a permit is issued with or without its flexibilities, a “shield” protects the permit holder from strict liability for unauthorized discharges.⁹⁰ The idea behind a permit shield is “to relieve permit holders of having to litigate in an enforcement action the question whether their permits are sufficiently strict.”⁹¹ As an example, the CWA’s permit shield defense applies “as long as (1) the permit holder complies with the express terms of the permit and with the Clean Water Act’s disclosure requirements and (2) the permit holder does not make a discharge of pollutants that was not within the reasonable contemplation of the permitting authority at the time the permit was granted.”⁹² Thus, if the permit is based upon accurate information, it is valid. Only if the defendant withheld relevant information in the permit process would the permit not be valid.⁹³

The permit shield has been a common defense in water permits involving national water quality standards. For example, in a 2015 federal district court case in Georgia, the court agreed with the

⁸⁹ See *Sierra Club v. Ga. Power Co.*, 365 F. Supp. 2d 1297, 1301 (N.D. Ga. 2004) (showing argument by regulated entity argued that provision of its air pollution permit acknowledging state’s enforcement discretion regarding excess emissions during startup, shutdown, or malfunction was an affirmative defense available to the plant operator in a citizen suit under Clean Air Act (CAA)).

⁹⁰ See *Nat. Res. Def. Council v. County of Los Angeles.*, 725 F.3d 1194, 1204 (9th Cir. 2013) (explaining that if a polluter holds a water permit, compliance with the terms of the permit satisfies its obligations and it cannot be liable for discharges in accordance with the permit); see also 33 U.S.C. § 1342(k) (“Compliance with a permit issued pursuant to this section shall be deemed compliance,” for purposes of any citizen suit or government enforcement action of this title, “except any standard imposed under section 1317 of this title for a toxic pollutant injurious to human health.”). Note, the CAA Amendments also include permit shields for permittees. See, MINN. POLLUTION CONTROL AGENCY, FACTS ABOUT APPLICATION AND PERMIT SHIELDS (1998), <https://www.pca.state.mn.us/sites/default/files/2-04.pdf>.

⁹¹ *Wisc. Res. Prot. Council v. Flambeau Mining Co.*, 727 F.3d 700, 706 (7th Cir. 2013).

⁹² *Piney Run Pres. Ass’n v. Cty. Comm’rs of Carroll Cty.*, 268 F.3d 255, 259 (4th Cir. 2001); see also *Nat. Res. Def. Council*, 725 F.3d at 1204.

⁹³ See 42 U.S.C. § 7661c(f) (“Compliance with a permit issued in accordance with this subchapter shall be deemed compliance”); see also WIS. STAT. § 285.62(10)(b) (2019–2020) (“compliance with all emission limitations included in an operation permit is considered to be compliance with all emission limitations”).

defendant pulp and paper mill that the CWA's permit shield provisions shielded the mill from liability under the CWA.⁹⁴ The plaintiff environmental groups had argued that the mill's discharge had a negative impact on the river, and that the discharge violated the state's water quality standards pertaining to color, odor, and turbidity.⁹⁵ The mill, however, argued in its defense that the state's narrative water quality standards were not incorporated into the permit issued to the mill for wastewater discharges.⁹⁶ The court agreed with the pulp mill, granting its motion for summary judgment on the plaintiff environmental groups' CWA claims.⁹⁷

Similarly, in a Sixth Circuit case in Kentucky, the court found that a permit shield for a mining company protected the company from CWA liability associated with discharges of selenium.⁹⁸ The company's discharge of selenium resulted in levels that exceeded the threshold in the state's water quality standard, but the company's permit did not specify effluent limitations for selenium.⁹⁹ The plaintiff, a citizen group, argued that "the permit shield [did] not apply because the discharge of selenium was neither expressly authorized by the permit nor reasonably contemplated by the [state agency] when it issued the permit."¹⁰⁰ The Sixth Circuit disagreed, however, shielding the mining company from liability.¹⁰¹

⁹⁴ *Altamaha Riverkeeper, Inc. v. Rayonier Inc.*, No. CV 214-44, 2015 U.S. Dist. LEXIS 42849, at *6 (S.D. Ga. Mar. 31, 2015).

⁹⁵ *See id.* at *3-4; *Pulp Mill's Pollution Discharge Permit Falls Short of Georgia Water Quality Standards*, S. ENV'T L. CTR. (Jan. 28, 2016), <https://www.southernenvironment.org/news-and-press/news-feed/pulp-mill-pollution-discharge-permit-falls-short-of-georgia-water-quality->.

⁹⁶ *See Altamaha Riverkeeper, Inc.*, 2015 U.S. Dist. LEXIS 42849, at *25-26.

⁹⁷ *See id.* at *28.

⁹⁸ *See Sierra Club v. ICG Hazard, LLC*, 781 F.3d 281, 282 (6th Cir. 2015).

⁹⁹ *See id.*

¹⁰⁰ *See id.* at 283.

¹⁰¹ *See id.* at 282; *see also* *Atl. States Legal Found. v. Eastman Kodak Co.*, 12 F.3d 353, 357-59 (2d Cir. 1993) (finding the pollutant at issue, though not limited by any permit condition, was disclosed and contemplated within the permitting process, thus implicitly within the permit and thus the regulated entity was shielded from liability); *but see* *Nw. Env't Advoc. v. City of Portland*, 56 F.3d 979, 989-90 (9th Cir. 1995) (rejecting the argument that water quality standards must be translated into specific effluent limitations in order to constitute an enforceable requirement of the permit).

Environmental regulations also exempt regulated facilities from needing permits if the facility is only a “minor” source of pollution, with easily-abused criteria qualifying a source as minor. In CAA permitting, for example, to stay classified as a minor rather than major source, a regulated entity only needs to promise to keep the facility’s pollution under minor source pollution thresholds.¹⁰² While it may make sense from a regulatory perspective to ease permitting burdens for only minor sources of pollution, it can be difficult for enforcers to monitor whether a facility actually stays below minor source thresholds.¹⁰³ In *Wild Earth Guardians v. Extraction Oil and Gas Inc.*, for example, the court struggled with reliance on the defendant’s “promise” to keep emissions below threshold limits when it was clear that recordkeeping on the defendant’s actual emissions was sparse and not publicly available.¹⁰⁴ At the same time, regulated facilities often push back on monitoring requirements as permit conditions.¹⁰⁵

At a broad level, exceptions are not really exceptions, but instead are quite the norm in regulatory design.¹⁰⁶ For example, the

¹⁰² See Nat’l Parks Conservation Ass’n v. N.D. Dept. of Env’t Quality, 945 N.W.2d 318, 325 (N.D. 2020) (upholding the state agency’s issuance of a permit to a refinery even though it did not include a numeric cap on hazardous air pollutants because the facility’s potential levels of hazardous air pollution were below major source thresholds) (citing, *Voigt v. Coyote Creek Mining Co.*, No. 1:15-CV-00109, 2016 WL 3920045, at *34 (D.N.D. July 15, 2016)). In *Voigt*, the court rejected the argument that a numeric cap was required when determining a source’s potential to emit in the PSD context. See *Voigt*, 2016 WL 3920045, at *34.

¹⁰³ See, e.g., Memorandum from Terrell E. Hunt, Assoc. Enforcement Couns., Air Enforcement Div. & John S. Seitz, Dir., Stationary Source Compliance Div. (June 13, 1989), https://www3.epa.gov/ttn/atw/pte/june13_89.pdf (discussing enforceability concerns associated with keeping track of minor source thresholds in air permitting).

¹⁰⁴ See *WildEarth Guardians v. Extraction Oil and Gas Inc.*, 457 F. Supp. 3d 936, 961–62 (D. Colo. 2020).

¹⁰⁵ See *Petition for Review of Limetree Bay Refin., LLC & Limetree Bay Terminals, LLC Plantwide Applicability Limit Permit Issued by EPA Region 2 at 1, Limetree Bay Refining (No. 20-03M) (EAB Feb. 3, 2021)* (2021 case pending with Environmental Appeals Board involving an oil refiner’s challenge to EPA’s issuance of an air permit that requires general air monitoring to ensure compliance with national ambient air quality standards).

¹⁰⁶ See Cary Coglianese et al., *Unrules*, 73 STAN. L. REV. 885, 885–86 (2021); see also David L. Markell & Robert L. Glicksman, *A Holistic View of Agency Enforcement*, 93 N.C. L. REV. 1, 15 (2014) (noting RCRA as an example where

CWA and implementing regulations allow variances from water quality limits for wastewater dischargers when compliance might cause “substantial and widespread economic and social impact[s]” in communities.¹⁰⁷ Additionally, the CAA and its implementing regulations allow permit exemptions for regulated facilities that may promise to keep emissions below certain threshold levels.¹⁰⁸ At state and local levels, exemptions are replete, particularly, for example, in variances from zoning requirements.¹⁰⁹

Second, environmental regulations provide flexibility by imposing voluntary standards instead of required standards. Under the CAA, the federal government sets the standards, and states are required to draft a state implementation plan (SIP) for EPA approval that sets specific measures to achieve the standards, including through issuance of source-specific permits.¹¹⁰ Similarly, under the CWA, every state must promulgate water quality standards for EPA approval that require individual sources to obtain permits.¹¹¹ State-selected implementation measures, through permits or other specific pollution reducing programs, must be “enforceable” under the CAA and CWA.¹¹²

However, state pollution reducing measures in CAA and CWA plans or permits can be voluntary, raising the question of whether such measures also meet the requirements for enforceability. For example, a significant issue in *Bayview Hunters Point Community Advocates v. Metropolitan Transportation Commission* was whether a voluntary implementation mechanism included in the

regulatory standards are different between hazardous waste standard generators and de minimis generators).

¹⁰⁷ 40 C.F.R. § 131.10 (2021); *see also id.* § 131.14 (water quality standards variances).

¹⁰⁸ *See, e.g., Air Permit Exemptions*, WIS. DEP’T OF NAT. RES., <https://dnr.wisconsin.gov/topic/SmallBusiness/Exemptions.html> (last visited Oct. 7, 2021) (“Some facilities or construction projects at existing facilities may have a low enough environmental impact that they are exempt from obtaining air pollution permits.”).

¹⁰⁹ *See* Dietrich Earnhart et al., *Discretionary Exemptions from Environmental Regulation: Flexibility for Good or for Ill* 5 (Res. For the Future, Working Paper 19-20, 2019), https://media.rff.org/documents/WP_19-20_Kuwayama_et_al.pdf.

¹¹⁰ *See* 42 U.S.C. § 7410(a)–(k).

¹¹¹ *See* 33 U.S.C. §§ 1313(a), 1342.

¹¹² *See, e.g.,* 33 U.S.C. § 1319(d); 42 U.S.C. § 7410(a)(2) (describing that each SIP must, among other requirements, include “enforceable emission limitations”).

California SIP was “enforceable.”¹¹³ The plan included, as a mechanism to meet overall air quality standards in the San Francisco area, the anticipated reductions in emissions resulting from a fifteen percent “target” public transportation ridership increase.¹¹⁴ The Ninth Circuit found that nothing in the transportation control measure’s language actually required a ridership increase by any amount, and that instead the expected ridership increase was simply a target, not a promise to attain a ridership increase.¹¹⁵ The ridership target relied on “hoped-for increases in productivity” to boost public transit use, but because predicting public behavior is unreliable, the Court found that the measure was unenforceable.¹¹⁶ By contrast, other cases have found that similar voluntary measures in a SIP do meet the CAA’s requirement of enforceability. In *BCCA Appeal Group v. EPA*, the Fifth Circuit found that a SIP that simply promised to make real reductions in the future, without actually specifying particular control measures, was good enough to qualify as enforceable and therefore did not violate the CAA’s requirements.¹¹⁷ The Fifth Circuit looked to EPA’s own interpretation of the CAA allowing “limited use of other ‘means’ and ‘techniques,’” like future promises, “so long as the entire package of measures and rules provides for attainment” of air quality standards, and the state is *capable* of fulfilling its promise.¹¹⁸ Similarly, in *Committee for a Better Arvin v. EPA*, the Ninth Circuit found that California’s SIP, relying on a promise by the state to achieve certain emission reductions in the future, was enough to meet enforceability requirements.¹¹⁹ The Ninth Circuit

¹¹³ See *Bayview Hunters Point Cmty. Advoc. v. Metro. Transp. Comm’n*, 366 F.3d 692, 697 (9th Cir. 2004).

¹¹⁴ See *id.* at 695, 697.

¹¹⁵ See *id.* at 698.

¹¹⁶ *Id.* at 698–99, 702.

¹¹⁷ See *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 841 (5th Cir. 2003).

¹¹⁸ *Id.* at 840 (citing *Approval and Promulgation of Implementation Plans; Texas; Houston/Galveston Nonattainment Area; Ozone*, 66 Fed. Reg. 57,160, 57,177 (Nov. 14, 2001)). The court referred to EPA’s three factor test “in determining whether to approve a SIP’s enforceable commitment: (1) whether the commitment addresses a limited portion of the [SIP]; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time.”

¹¹⁹ See *Comm. for a Better Arvin v. EPA*, 786 F.3d 1169, 1173 (9th Cir. 2014) (challenging the State of California’s reliance on unenforceable measures to meet

distinguished *Committee for a Better Arvin* from *Bayview Hunters Point Community Advocates*, finding that because “state commitments to propose and adopt emission control measures require[d] government agency action” rather than action by the public, the measures were enforceable.¹²⁰

Third, even when pollution standards are required, sometimes they are simply too vague for enforcers. Under the CAA, for a permit condition to be considered “enforceable as a practical matter,” it must include specific criteria such as “applicability, compliance date, specificity of conduct, any incorporation by reference, record-keeping requirements, and exemptions and exceptions.”¹²¹ Yet, in *Nat’l Parks Conservation Ass’n v. N.D. Dep’t of Env’t Quality*, the state Supreme Court of North Dakota held that an emission limit for a refinery did not need to be numeric in order to still be enforceable.¹²² The court based its reasoning on the fact that “[n]othing in applicable state or federal law require[d] the [state] to specify a numeric cap for a limit.”¹²³ Similarly, under the CWA, water quality standards can be either narrative *or* numeric.¹²⁴ Indeed, some scholars have argued for the adoption of numeric water quality standards as preferable to narrative standards, which are “vaguer and less susceptible to enforcement.”¹²⁵

Moreover, new environmental regulations can face opposition at the outset due to concerns that such new regulations will require more resources to enforce. This issue arose in arguments made by the state of Colorado in a 2020 case before the Tenth Circuit regarding EPA’s Navigable Waters Protection regulation.¹²⁶ In its request that the court enjoin EPA from implementing the new regulation,

air quality standards for “the San Joaquin valley, an area with some of the worst air quality in the [country]”).

¹²⁰ *Id.* at 1179–80.

¹²¹ Requirements for the Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 54 Fed. Reg. 27,274, 27,283 (June 28, 1989).

¹²² See *Nat’l Parks Conservation Ass’n v. North Dakota Dep’t of Env’t Quality*, 945 N.W.2d 318, 327 (N.D. 2020).

¹²³ *Id.* at 327.

¹²⁴ See 40 C.F.R. § 131.3(b) (2020).

¹²⁵ See Julie Furr Youngman, *Water, Water, Anywhere?: Protecting Water Quantity In State Water Quality Standards*, 94 IND. L.J. 1613, 1613 (2019).

¹²⁶ See *Colorado v. EPA*, 989 F.3d 874, 885 (10th Cir. 2021).

Colorado presented an increased *enforcement* burden as evidence of harm. In particular, the state's clean water program manager asserted that implementation of the regulation would require Colorado to eventually take enforcement action, and because the state lacked dedicated funding to undertake such an enforcement effort, the state would "have to divert resources from other clean water programs to the detriment of those programs."¹²⁷ While the court found the testimony by the program manager to be lacking in specificity, and as a result, found insufficient evidence for the state to demonstrate harm, it is indicative of the very real need for consideration of the availability of state enforcement budgets and resources in new federal regulations.¹²⁸ In another example, multiple state agencies fought against the 2002 CAA New Source Review proposed regulation, arguing in part that the regulation's weak recordkeeping requirements for regulated entities would hinder enforcement efforts by increasing the burden on states.¹²⁹

C. Legal Hurdles

In addition to regulatory hurdles, legal hurdles also present significant difficulties for environmental enforcers, particularly with the doctrines of preclusion and preemption. Defendants typically raise both of these arguments as affirmative defenses in environmental enforcement litigation.¹³⁰ Preclusion prevents enforcers from bringing an enforcement action because of a prior resolved enforcement case involving the same issue. Preemption prevents enforcers from bringing an enforcement case because a higher authority of law exists that conflicts with the enforcement action, thereby displacing the action.

Defendants in environmental enforcement actions raise preclusion arguments in a number of contexts. Several environmental statutes preclude citizen enforcement actions when a state has commenced and is diligently prosecuting an action under a comparable

¹²⁷ *Id.* at 886.

¹²⁸ *See id.* ("to constitute irreparable harm, an injury must be imminent, certain, actual and not speculative.").

¹²⁹ *See, e.g.,* New Jersey v. EPA, 989 F.3d 1038, 1046 (D.C. Cir. 2021).

¹³⁰ An affirmative defense to a civil lawsuit or criminal charge is a fact or set of facts other than those alleged by the plaintiff, which, if proven by the defendant, defeats or mitigates the legal consequences of the defendant's otherwise unlawful conduct.

state law in court.¹³¹ Some federal statutes also provide that prior state *administrative* enforcement actions can bar the filing of a citizen suit addressing the same violations. Preclusion arguments commonly arise with citizen suit enforcers.¹³²

Government enforcers can also face preclusion defenses.¹³³ For example, under the Resource Conservation and Recovery Act (RCRA), federal enforcers have faced preclusion issues when a state has reached agreement on its own enforcement action.¹³⁴ In *Harmon Industries*, the Eighth Circuit found that the plain language of RCRA showed a “congressional intent for an authorized state program to supplant the federal hazardous waste program in all respects including enforcement.”¹³⁵ The defendant in that case challenged EPA’s claims by, in part, arguing that EPA was barred from suing because the state had begun its own action against the defendant.¹³⁶ The defendant had already reached a settlement agreement, later approved by a state court, under which the defendant would clean up the relevant disposal area and pay no fine.¹³⁷ EPA then initiated an enforcement action against it under RCRA, seeking over \$2 million in penalties.¹³⁸ After litigating EPA’s claim through an administrative law judge and federal district court, the Eighth Circuit affirmed

¹³¹ In general, citizens are precluded from filing a suit if EPA or the state has commenced and is diligently prosecuting a civil or criminal action in a court of the United States a pollution standard at issue in the citizen suit. *See* 33 U.S.C. § 1365(b)(1)(B); 42 U.S.C. § 300j-8(b)(1)(B) (Safe Drinking Water Act); 42 U.S.C. § 7604(b)(1)(B) (Clean Air Act); 15 U.S.C. § 2619(b)(1)(B) (Toxic Substances Control Act); 42 U.S.C. § 11046(e), (h)(2) (Emergency Planning and Community Right-to-Know Act).

¹³² *See, e.g.*, *Sierra Club v. Two Elk Generation Partners, Ltd. P’ship*, 646 F.3d 1258, 1263–64 (10th Cir. 2011) (finding a CAA citizen suit action precluded under the common law doctrine of issue preclusion); *Friends of Milwaukee’s Rivers v. Milwaukee Metro. Sewerage Dist.*, 382 F.3d 743, 757 (7th Cir. 2004) (considering the doctrine of claim preclusion in a CWA citizen suit action).

¹³³ *See generally*, William Daniel Benton, *Application of Res Judicata and Collateral Estoppel to EPA Overfiling*, 16 B.C. ENV’T. AFFS. L. REV. 199, 202–203 (discussing preclusion in government enforcement cases in RCRA and other federal environmental statutes).

¹³⁴ *See, e.g.*, *Harmon Indus., Inc. v. Browner*, 191 F.3d 894, 904 (8th Cir. 1999).

¹³⁵ *Id.* at 899.

¹³⁶ *See id.* at 898–99.

¹³⁷ The facts of *Harmon Industries*, *id.* at 896–97, involved maintenance workers discarding solvent residue outside one of the plaintiff’s plants for many years.

¹³⁸ *See id.* at 897.

the district court's decision, holding that EPA was barred from initiating an independent action against an alleged violator of RCRA that had been the subject of a state enforcement action.¹³⁹

Enforcers, particularly at the state and local level, also grapple with preemption arguments when pursuing environmental enforcement actions.¹⁴⁰ In recent years, preemption has been particularly difficult for state and local government enforcers when attempting to enforce environmental regulations on natural gas pipelines.¹⁴¹ In one federal district court case, a natural gas company sought declaratory judgment and an injunction against a town's enforcement of its zoning ordinance through denial of a building permit.¹⁴² The company argued that without a permit, "the Town could issue a stop work order with potential penalties" and jail time for violating the zoning ordinance despite the company having secured requisite approval from a federal regulator.¹⁴³ The court agreed, finding that the town's zoning regulations conflicted with the determination approved by the Federal Energy Regulatory Commission (FERC).¹⁴⁴ In another similar federal district court case, a natural gas company sought a declaratory judgment and an injunction against the state of Connecticut to obtain relief from the requirement that it obtain a state permit under the state's Structures, Dredging and Fill Act for construction activities related to an interstate natural gas pipeline.¹⁴⁵ The court held that allowing the state of Connecticut to enforce a sediment-sampling requirement for construction activities, and then

¹³⁹ See *id.* at 897, 904.

¹⁴⁰ In general, the Supremacy Clause of the U.S. Constitution gives Congress the power to preempt state law and an agency's preemption regulations have the same preemptive effect as statutes. See, e.g., *Choate v. Champion Home Builders, Co.*, 222 F.3d 788, 791–92 (10th Cir. 2000). Federal preemption occurs where Congress "define[s] explicitly the extent to which its enactment preempts state law" when state law "regulates conduct in a field that Congress intended the Federal Government to occupy exclusively[.]" and when "it is impossible for a private party to comply with both state and federal requirements." *English v. Gen. Elec. Co.*, 496 U.S. 72, 79 (1990).

¹⁴¹ See, e.g., *Empire Pipeline, Inc. v. Town of Pendleton*, 472 F. Supp. 3d 25 (W.D.N.Y. 2020); *Islander E. Pipeline Co. v. Blumenthal*, 478 F. Supp. 2d 289 (D. Conn. 2007).

¹⁴² See *Empire Pipeline, Inc.*, 472 F. Supp. 3d, at 28, 30.

¹⁴³ *Id.* at 31.

¹⁴⁴ See *id.* at 42.

¹⁴⁵ See *Islander E. Pipeline Co.*, 478 F. Supp. 2d at 290.

potentially denying the company's permit application, would pose a significant obstacle to the pipeline project, thereby colliding with the Natural Gas Act.¹⁴⁶ Other federal court cases are contending with the ability of a state government to enforce state water permits given the Natural Gas Act's carve out for the rights of states to administer CWA water certification programs for discharges into navigable waters.¹⁴⁷

In addition to natural gas pipelines, preemption of local government enforcement also arises in the context of railway expansion.¹⁴⁸ For example, in *Grafton & Upton R.R. Co. v. Town of Milford*, a local government dealt with a challenge to its efforts to enforce zoning restrictions on preemption grounds.¹⁴⁹ In that case, the local government informed a railroad company that it "intended to file a petition with the Surface Transportation Board... seeking a declaratory order" that the railroad company's proposed development of an old rail yard was prohibited by the town's zoning law.¹⁵⁰ The railroad company filed an action in federal court to enjoin the local government "from taking any action to enforce its zoning law, arguing that federal interstate commerce law preempted any state or local statute, ordinance, or regulation" supporting a delay or prohibition on the railroad's proposed development.¹⁵¹ The town tried to argue that the proposed development was not for transportation purposes, but rather only for related train functions more akin to those of a trucking company, thereby eliminating any conflict between the federal law and the state zoning law.¹⁵² However, the court found that the relevant federal statute, the Interstate Commerce Commission Termination Act, "indicates an express intent on the part of

¹⁴⁶ See *id.* at 294–95.

¹⁴⁷ See, e.g., *Millennium Pipeline Co. v. Seggos*, 288 F. Supp. 3d 530, 534–35 (2017).

¹⁴⁸ See, e.g., *Ass'n of Am. R.Rs. v. S. Coast Air Quality Mgmt. Dist.*, 622 F.3d 1094 (9th Cir. 2010) (discussing the preemption, by the federal Interstate Commerce Commission Termination Act, of a local government regulation limiting "permissible amount of emissions from idling trains," imposing, "reporting requirements, backed by threat of penalties, on railyard operators.").

¹⁴⁹ See *Grafton & Upton R.R. Co. v. Town of Milford*, 337 F. Supp. 2d 233, 235 (D. Mass. 2014).

¹⁵⁰ *Id.* at 237.

¹⁵¹ See *id.*

¹⁵² See *id.* at 238.

Congress to preempt the entire field of railroad regulation, including activities related to but not directly involving railroad transportation.”¹⁵³ Thus, the court held that the local government’s enforcement of its zoning regulations would interfere with the proposed interstate rail operations.¹⁵⁴

Preemption hurdles arise in multiple other contexts for local government agencies trying to enforce existing pollution laws. In Texas, a court found that the state air and water pollution laws preempted a local government’s ordinance, even though the local government enacted the ordinance because it felt that the state’s enforcement of its pollution laws was too lax.¹⁵⁵ In a Nebraska case, a state court found a city’s ordinance banning landfills within five miles of the city’s drinking water supply unenforceable against a county government’s solid waste disposal site because a state statute preempted the city’s ordinance.¹⁵⁶ However, in New Hampshire, the state Supreme Court found that state solid waste statutes did not completely preempt the solid waste management field and that a town’s local ordinance regarding the location of a landfill was not preempted.¹⁵⁷

Lastly, legal hurdles for enforcement can also arise from some of the resource hurdles discussed above. The unavailability of enforcement officials to find violations in a timely manner means cases may become stale or face statute of limitations defenses by regulated entities. In one CWA enforcement case, for example, government plaintiffs alleged over one hundred violations at one Texas aluminum plant based on self-reported discharge monitoring reports (DMR) from the defendant corporate owner.¹⁵⁸ The defendant raised a statute of limitations defense, arguing in part that the government

¹⁵³ *Id.*

¹⁵⁴ *See id.* at 239 (finding that “in order to be permissible under the ICCTA, state and local regulations applied to the development of an automobile unloading facility must not interfere with interstate rail operations”) (referencing *Boston and Maine Corp. v. Town of Ayer*, 330 F.3d 12, 16 (1st Cir. 2003)).

¹⁵⁵ *See, e.g., BCCA Appeal Grp., Inc. v. City of Houston*, 496 S.W.3d 1, 5, 24 (2016).

¹⁵⁶ *See Sarpy County v. City of Springfield*, 492 N.W.2d. 566, 567–68 (Neb. 1992).

¹⁵⁷ *See N. Country Env’t Servs., Inc. v. Town of Bethlehem*, 150 N.H. 606, 615–17 (2004).

¹⁵⁸ *See United States v. Aluminum Co. of America*, 824 F. Supp. 640, 643 (E.D. Tex. 1993).

plaintiffs “should have known of the violations because EPA has the right to inspect permitted facilities.”¹⁵⁹ The court specifically noted that the EPA region covering Texas and other neighboring states receives over fourteen thousand such DMRs each *month* and has limited resources with which to perform inspections of permit holders’ facilities.¹⁶⁰ Thus, the court held that, even though EPA had the right to inspect the aluminum plant at any time under the CWA, a belief that EPA should have done so did not “correspond with reality.”¹⁶¹

III. CASE STUDY: VEHICLE TAMPERING

This Part uses enforcement of air pollution regulations that prohibit tampering with emission control devices on motor vehicles as a case study to demonstrate the ways in which legal hurdles in environmental enforcement manifest in one particular fact pattern. It highlights tampering in particular because of the plethora of enforcement activity happening currently, and the issues pending related to preemption, exceptions, and resources.

A. Regulations and Compliance

EPA promulgates emissions standards for specific air pollutants emitted by vehicles and engines introduced into the U.S. market. To ensure that every vehicle and engine introduced into the market satisfies emissions standards, EPA administers a certification program.¹⁶² Vehicle manufacturers apply for a certificate, and in these applications must describe specific elements of design to meet relevant emissions standards.¹⁶³ Design features may include, for example, fueling strategies, ignition timing, exhaust gas recirculation systems, filters, and catalysts.¹⁶⁴ The CAA also explicitly

¹⁵⁹ *See id.* at 646.

¹⁶⁰ *See id.* at 647.

¹⁶¹ *Id.*

¹⁶² *See* Memorandum from Susan Parker Bodine, Assistant Administrator for Enforcement and Compliance Assurance, EPA (Nov. 23, 2020), <https://www.epa.gov/sites/default/files/2020-12/documents/epatamperingpolicy-enforcementpolicyonvehicleandenginetampering.pdf> [hereinafter EPA Policy Memorandum].

¹⁶³ *See id.*

¹⁶⁴ *See* Memorandum from Evan Belser, Deputy Director, Air Enforcement Division, Office of Civil Enforcement, EPA, to Jason E. Sloan, Executive Director, Association of Air Pollution Control Agencies (Nov. 20, 2020),

prohibits any person from removing any device or element of design installed on or in a vehicle or engine prior to its sale *or* knowingly removing any such element of design after a sale.¹⁶⁵ Thus, the regulations employ, as this Article describes in Table 1, above, features of what administrative law scholars would call both a design-based standard and a prohibition.

In order to demonstrate compliance with emissions standards, vehicle and engine manufacturers must obtain a certificate from EPA for new fleets of vehicles coming into the market.¹⁶⁶ A certificate “demonstrates that the respective engine or vehicle conforms to all of the applicable emission requirements.”¹⁶⁷ An aftermarket part “with a principal effect of bypassing, defeating, or rendering inoperative any aspect of these elements might be [considered an] illegal aftermarket defeat device.”¹⁶⁸ To obtain a certificate, a manufacturer must submit an application to EPA for each model year and for each test group of new motor vehicles that it wants to be able to sell into commerce.¹⁶⁹ EPA regulations also require periodic “in-use” testing of vehicles, which requires manufacturers to periodically test a specified number of vehicles and report the results of those tests to EPA.¹⁷⁰ EPA uses such testing and reporting to watch for noncompliance.¹⁷¹

<https://www.epa.gov/sites/default/files/2021-01/documents/epaaedletterreportontampereddieselpickups.pdf> [hereinafter EPA Tampered Diesel Pickup Trucks Investigation].

¹⁶⁵ See Clean Air Act § 203(a)(3)(A), 42 U.S.C. § 7522(a)(3)(A).

¹⁶⁶ See 42 U.S.C. § 7525(a)(1) (EPA administers a certificate of conformity (“COC”) program to ensure that every new motor vehicle introduced into United States commerce satisfies applicable emission standards); 42 U.S.C § 7521.

¹⁶⁷ *Overview of Certification and Compliance for Vehicles and Engines*, EPA, <https://www.epa.gov/ve-certification/overview-certification-and-compliance-vehicles-and-engines> (last visited Oct. 7, 2021) (“The certificate represents engines and vehicles covered by a specific engine family or, in the case of light-duty vehicles, a specific test group for each manufacturer.”).

¹⁶⁸ EPA Policy Memorandum, *supra* note 162, at 3.

¹⁶⁹ See 42 U.S.C. § 7525(a)(1); 40 C.F.R. §§ 86.1803-01, 86.1827-01 (2020) (a test group is comprised of motor vehicles with similar engine design and subject to the same emission standards for pollutants regulated under the Act).

¹⁷⁰ See *Requirements for In-Use Emissions Testing for Clean Diesel Technology*, EPA, <https://www.epa.gov/verified-diesel-tech/requirements-use-emissions-testing-clean-diesel-technology> (last visited Oct. 7, 2021).

¹⁷¹ See EPA Policy Memorandum, *supra* note 162.

The CAA's prohibition on removing elements of design is trickier to monitor. Each certificate application from a manufacturer must include, among other things, a list of all auxiliary emission control devices (AECDs) installed on the motor vehicles.¹⁷² An AECD is an element of design that senses a parameter, like temperature or vehicle speed, and then changes part of the emission control system.¹⁷³ The difficult thing is that EPA regulations allow AECDs when there is a specific justification for their use.¹⁷⁴ An AECD only becomes a prohibited defeat device when it "reduces the effectiveness of the emission control system under conditions that may reasonably be expected" during operation and use of the vehicle.¹⁷⁵ Such prohibited AECDs are defeat devices.¹⁷⁶ As Richard Epstein wrote in a *Forbes* article, enforcement of unauthorized AECDs and defeat devices is hard because the regulatory system primarily looks at how vehicles are made and used, and as a result, responsibility involves multiple parties, including the automaker, the owner, third-party drivers, dealers, and other parties.¹⁷⁷

¹⁷² See 40 C.F.R. § 86.1844-01(d)(11) (2020) (each certificate must also include a "justification for each AECD, the parameters they sense and control, a detailed justification of each AECD that results in a reduction in effectiveness of the emission control system, and rationale for why it is not a defeat device").

¹⁷³ See 40 C.F.R. § 86.1803-01.

¹⁷⁴ See *id.* (a "defeat device" is an AECD that "reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless: (1) Such conditions are substantially included in the Federal emission test procedure; (2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; (3) The AECD does not go beyond the requirements of engine starting; or (4) The AECD applies only for emergency vehicle . . .").

¹⁷⁵ EPA, OFF. OF INSPECTOR GEN., REPORT NO. 19-P-0168, EPA DEMONSTRATES EFFECTIVE CONTROLS FOR ITS ON-ROAD HEAVY DUTY VEHICLE COMPLIANCE PROGRAM: FURTHER IMPROVEMENTS COULD BE MADE 5 (2019), https://www.epa.gov/sites/default/files/2019-06/documents/_epaig_20190603-19-p-0168_0.pdf.

¹⁷⁶ See *id.*

¹⁷⁷ See Richard Epstein, *The Role of Defeat Devices in Environmental Protection: Beyond the VW Scandal*, FORBES (Sept. 27, 2017), <https://www.forbes.com/sites/richardepstein/2017/09/27/the-role-of-defeat-devices-in-environmental-protection-beyond-the-vw-scandal/?sh=7a2a94ff52c1>.

B. Noncompliance and Enforcement

Noncompliance with the CAA's defeat device regulations made national headlines in 2015 with the Volkswagen diesel emissions scandal.¹⁷⁸ That infamous case involved a large original equipment manufacturer (OEM) installing defeat devices in the computer program of several classes of new vehicles.¹⁷⁹ The United States has also brought multiple other enforcement cases involving OEMs that installed defeat devices in a vehicle's computer system, including against Fiat-Chrysler, Daimler, and Mercedes-Benz.¹⁸⁰ There has been less public attention, however, towards aftermarket cases involving individuals, repair shops, and sellers of defeat devices tampering with emissions controls on existing vehicles. This type of tampering includes reprogramming original engine software to override the diagnostic system so a tampered vehicle can run without a diagnostic check, installing hardware designed to defeat emissions controls, and replacing original exhaust systems with hollow straight pipes.¹⁸¹

There are multiple reasons for tampering with emissions controls in the aftermarket context. Some emissions control devices affect engine performance by increasing fuel consumption, thereby reducing fuel economy.¹⁸² Tampering also avoids cost and time to

¹⁷⁸ See Russell Hotten, *Volkswagen: The Scandal Explained*, BBC (Dec. 10, 2015), <https://www.bbc.com/news/business-34324772>. Also, note, the EPA has long brought enforcement cases against manufacturers for installing defeat devices. See, e.g., *United States v. Caterpillar, Inc.*, 227 F. Supp.2d 73 (D.D.C. 2002); EPA, *Clean Air Act Prohibits "Defeat Devices" in Vehicles, Engines*, ENFORCEMENT ALERT (Aug. 1998), <https://www.epa.gov/sites/production/files/2014-06/documents/defeat.pdf> (describing enforcement actions brought against Honda and Ford in 1996 and 1997 for equipping vehicles with defeat devices).

¹⁷⁹ See *Learn About Volkswagen Violations*, EPA, <https://www.epa.gov/vw/learn-about-volkswagen-violations> (last visited Oct. 8, 2021).

¹⁸⁰ See *Daimler AG and Mercedes-Benz USA, LLC Clean Air Act Civil Settlement*, EPA, <https://www.epa.gov/enforcement/daimler-ag-and-mercedes-benz-usa-llc-clean-air-act-civil-settlement> (last visited Oct. 8, 2021); see *Fiat Chrysler Automobiles Clean Air Act Civil Settlement Information Sheet*, EPA, (Jan. 10, 2019), <https://www.epa.gov/enforcement/fiat-chrysler-automobiles-clean-air-act-civil-settlement-information-sheet>.

¹⁸¹ See EPA Policy Memorandum, *supra* note 162, at 3.

¹⁸² NAT'L RENEWABLE ENERGY LAB., DIESEL EMISSIONS CONTROL—SULFUR EFFECTS PROJECT (2002).

maintain emissions controls.¹⁸³ Further, tampering allows vehicle owners to customize their cars.¹⁸⁴ Despite the relative lack of attention it receives, aftermarket noncompliance by existing vehicles is also a rampant problem in the United States.¹⁸⁵ Thus, EPA's enforcement office made aftermarket defeat devices a formal compliance priority initiative during the Trump administration, one which continues today.¹⁸⁶ As one law firm blog notes, "even with the pandemic, EPA has resolved more than twenty aftermarket 'defeat device' and tampering enforcement cases."¹⁸⁷

Widespread tampering and noncompliance has significant implications for achievement of the expected benefit from environmental regulations. As stated by EPA, tampering disrupts engine calibration and balance, which increases emissions of harmful air pollutants.¹⁸⁸ Tampering with diesel-powered engines is particularly prevalent and problematic. EPA estimated in a 2020 report that prohibited tampering with emissions controls accounts for more than 570 thousand excess tons of NO_x and five thousand tons of PM, significantly contributing to the inability of many states to attain national air quality standards.¹⁸⁹ The report also found that 15 percent of all diesel-fueled pickup trucks—about 550 thousand—have been tampered with over the past decade, resulting in more than 570 thousand tons of excess NO_x.¹⁹⁰ In the mid-Atlantic states, around 8.5 percent of all diesel vehicles registered in Mid Atlantic Regional Air

¹⁸³ See EPA Tampered Diesel Pickup Trucks Investigation, *supra* note 164, at 4.

¹⁸⁴ See *id.* For more on customization of cars, see, e.g., *Best Cars to Customize: Everything You Need To Know*, CAR & DRIVER, <https://www.caranddriver.com/research/a32811308/best-cars-to-customize> (last visited Oct. 8, 2021).

¹⁸⁵ See Memorandum from Susan Parker Bodine, Assistant Administrator for Enforcement and Compliance Assurance, EPA, to Regional Administrators (June 7, 2019), <https://www.epa.gov/sites/production/files/2019-06/documents/2020-2023ncimemo.pdf>.

¹⁸⁶ See *id.*

¹⁸⁷ Arthur F. Foerster, *EPA Updates Aftermarket Defeat Device Enforcement Policy*, LATHAM & WATKINS LLP: ENV'T, LAND & RES. (Dec. 21, 2020), <https://www.globalelr.com/2020/12/epa-updates-aftermarket-defeat-device-enforcement-policy>.

¹⁸⁸ See EPA Policy Memorandum, *supra* note 162, at 3.

¹⁸⁹ See Coral Davenport, *Illegal Tampering by Diesel Pickup Owners Is Worsening Pollution, E.P.A. Says*, N.Y. TIMES (Nov. 25, 2020), <https://www.nytimes.com/2020/11/25/climate/diesel-trucks-air-pollution.html>.

¹⁹⁰ See EPA Tampered Diesel Pickup Trucks Investigation, *supra* note 164.

Management Association (MARAMA) states have had their emissions controls “deleted” between 2009–2019. That is the equivalent of sixty thousand tons of excess NO_x above expected levels.¹⁹¹

C. Resource, Regulatory, and Legal Hurdles

The multitude of both distinct and intertwined hurdles, as described in this Article, presents significant obstacles for enforcement of aftermarket tampering. The federal government has made progress on improving enforcement, but it cannot do it all. State enforcement agencies are starting to increase activity to regulate aftermarket tampering as well.¹⁹² Indeed, many states have laws prohibiting tampering with in-use vehicles,¹⁹³ and some states also prohibit dealers from selling tampered in-use vehicles.¹⁹⁴ However, various

¹⁹¹ See MID-ATLANTIC REG'L AIR MGMT. ASS'N, *Whitepaper on Tampering and After Market Defeat Devices: An Analysis of Mid-Atlantic State Compliance and Enforcement Options* (2020), <https://mde.maryland.gov/programs/Air/MobileSources/Documents/Anti-Tampering/TamperingWhitePaper.pdf>.

¹⁹² See, e.g., *Compliance Advisory Enforcement Alert: Tampering of Emission Control Systems on Diesel and Gasoline Vehicles Is Prohibited*, N.J. DEP'T OF ENV'T PROT. (Nov. 15, 2017), <https://www.nj.gov/dep/enforcement/advisories/2017-08.pdf>.

¹⁹³ See, e.g., UTAH ADMIN. CODE r.307-201-4 (2019) (“No person shall remove or make inoperable the [emissions control] system or device or any part thereof, except for the purpose of installing another system or device, or part thereof, which is equally or more effective in reducing emissions from the vehicle to the atmosphere.”); N.J. ADMIN. CODE § 7:27-15.7 (2016) (prohibiting tampering with emission control apparatus); CAL. CODE REGS. Tit. 13 § 2711(e) (2013) (“No person shall alter, physically disable, disconnect, bypass, or tamper with an installed ARB verified diesel emission control strategy.”); 326 IND. ADMIN. CODE § 13-2.1-3(a)(2) (2002) (“No person shall cause, suffer, allow, or permit the removal, dismantling, disconnection, disabling, or disrepair of any emission control system which has been installed on a motor vehicle by the manufacturer . . .”).

¹⁹⁴ See, e.g., N. J. Admin. Code § 7:27-15.7(a)(3–3) (prohibiting “[t]he sale, lease, or offer for sale or lease” of tampered vehicles); OHIO ADMIN. CODE 3704.16(B)(1) (1993) (“No person shall . . . [s]ell, offer for sale, possess for sale, advertise, manufacture, install, or use any part or component intended for use with or as part of any motor vehicle when the primary effect is to bypass, defeat, or render inoperative, in whole or part, the emission control system . . .”); 326 IND. ADMIN. CODE § 13-2.1-3(a)(1) (2002) (“No person shall rent, lease, sell, offer for sale, or in any manner transfer ownership of a motor vehicle with knowledge that the vehicle has been subject to tampering. . . . No person shall sell, offer for sale, or advertise for sale any add-on part or modified part which inhibits the effectiveness or bypasses an emission control system. . . .”); see also EPA Policy Memorandum, *supra* note 162.

enforcement hurdles have limited the effectiveness of these recent efforts to address vehicle tampering.

Government bodies seeking to enforce vehicle tampering violations, particularly at the state level, face a number of resource hurdles. The lack of credit in the SIP process for state tampering efforts impedes state enforcement activity.¹⁹⁵ In general, states have not received credit for tampering enforcement matters because of concerns about whether such enforcement can provide real pollution reductions that help the state achieve national air quality standards.¹⁹⁶ Instead, EPA grants SIP credit for mobile emissions reductions on a case-by-case basis.¹⁹⁷ While EPA grants SIP credits to states for adopting specified inspection and maintenance program features, like taking a car in for regular emissions testing, EPA does not require states to incorporate anti-tampering laws into their SIPs.¹⁹⁸ Moreover, given federal enforcement measures to address such tampering, some states view state-specific tampering enforcement as unnecessary and redundant.¹⁹⁹

¹⁹⁵ See Arnold W. Reitze, Jr., *Control of Air Pollution from Motor Vehicle Transportation by the Federal and State Governments*, ROCKY MTN. MIN. L. INST., Feb. 2000, at §§ 11-1, 11-3 (2000) (describing the types of control measures available under SIP regulations to achieve reductions in mobile source emissions, none of which include preventing vehicle tampering, and noting that “states that need reduction measures to meet SIP revision requirements have a strong incentive” to get the reductions, presumably via any available means).

¹⁹⁶ See Kenneth J. Adler et al., *Using an Emissions Banking and Trading Program to Reduce Diesel Emissions*, 49 TEX. ENV'T L.J. 183 (Nov. 2019) (describing that movement of the pollution source makes it difficult to track and enforce, and hence programs to reduce diesel emissions from tugboats have not received credit in SIPs and in similar credit banking programs in Houston, Texas).

¹⁹⁷ See Letter from David P. Howekamp, Director, Air Division, EPA, to Richard Somerville, Air Pollution Control Officer, San Diego County, Air Pollution Control District (Mar. 14, 2020), <https://www.epa.gov/sites/production/files/2015-07/documents/otaymesa.pdf>.

¹⁹⁸ EPA's Menu of Control Measures does not include any specific mention of anti-tampering measures, beyond those incorporated into I/M programs. See EPA, IMPORTANT INFORMATION CONCERNING THE MENU OF CONTROL MEASURES (2013), <https://www.epa.gov/sites/production/files/2016-02/documents/menu-of-controlmeasures.pdf>.

¹⁹⁹ See Memorandum from Steve Hagle, Deputy Dir., Off. of Air, Texas Comm'n on Env't Quality 1 (Sept. 28, 2018), https://www.tceq.texas.gov/assets/public/implementation/air/sip/mobile/2018_AntiTampering_EAC-LIRAP/18006SIP_AntiTamperEACLIRAP_ado.pdf.

Additionally, state enforcers have been confronted with a number of legal hurdles when addressing vehicle tampering. While the CAA prohibits states and localities from “adopt[ing] or attempt[ing] to enforce any standard relating to the control of emissions from new motor vehicles,” it also reserves to states and localities the right to control, regulate, or restrict the use, operation, or movement of registered or licensed motor vehicles.²⁰⁰ Such language in the statute has required states and local government enforcers to thread the needle in deciding which enforcement cases to pursue.²⁰¹

Indeed, Volkswagen in January 2021 petitioned the Supreme Court to overturn a ruling by the Ninth Circuit that allowed counties to bring additional defeat device claims against the company after finding that the CAA did not preempt such claims.²⁰² In the aftermath of the Volkswagen diesel emissions scandal, two local governments, one in Florida and another in Utah, brought enforcement cases against Volkswagen, alleging violation of state and local anti-tampering laws involving the installation of defeat devices.²⁰³ While

²⁰⁰ Clean Air Act § 209, 42 U.S.C. § 7543. *See* Engine Mfrs. Ass’n v. S. Coast Air Quality Mgmt. Dist., 541 U.S. 246, 253, 258 (2004) (explaining that “standard” under § 209 “relate[s] to the emission characteristics of a vehicle or engine” and finding state regulations equivalent to functionally enforcing a “standard” preempted); *Jackson v. General Motors Corp.*, 770 F. Supp. 2d 570, 576 (S.D.N.Y. 2011) (“[Section] 209(a)’s language unambiguously and expressly preempts state common law tort actions, provided that they ‘relate to’ the control of emissions.”); *Allway Taxi, Inc. v. City of New York*, F. Supp. 1120, 1124 (S.D.N.Y. 1972), *aff’d*, *Allway Taxi, Inc. v. City of New York*, 468 F.2d 624 (2d Cir. 1972) (“The preemption sections, however, do not preclude a state or locality from imposing its own exhaust emission control standards upon the resale or reregistration of the automobile. Nor do they preclude a locality from setting its own standards for the licensing of vehicles for commercial use within that locality.”).

²⁰¹ *See, e.g., In re* Office of Attorney General of State of New York, 709 N.Y.S.2d 1, 11 (N.Y. App. Div. 2000) (“In pursuing the common-law claims, the Attorney General is not, as he suggests, attempting to enforce an existing State standard or pursue a simple common-law claim but, rather, is seeking to use this State’s common law to penalize the manufacturers for producing engines which failed to comply with the Federal standards promulgated pursuant to the CAA. In doing so, the Attorney General is attempting to enforce those standards, and we now find that he is expressly preempted from pursuing those claims.”).

²⁰² *See* Petition for Writ of Certiorari, Volkswagen Grp. of America v. The Env’t Prot. Comm’n of Hillsborough Cnty., Fla., (2021) (No. 20-994), https://www.supremecourt.gov/DocketPDF/20/20994/166902/20210121145114485_Volkswagen%20Petition.pdf.

²⁰³ *See In re* Volkswagen “Clean Diesel” Mktg., Sales Practices, & Prods. Liab. Litig., 959 F.3d 1201, 1210 (9th Cir. 2020). Note, both the Utah and Florida cases

initially the claims focused on Volkswagen's pre-sale installation of defeat devices, after a district court decision found Wyoming's claim against Volkswagen preempted,²⁰⁴ the local government plaintiffs from Florida and Utah amended their complaints to focus on aftermarket software updates.²⁰⁵ Nonetheless, the Northern District of California dismissed the local government enforcement cases.²⁰⁶ On appeal, the Ninth Circuit reversed, finding that state and county actions relating to Volkswagen's post-sale actions were neither expressly nor impliedly preempted under the CAA.²⁰⁷ In Volkswagen's petition for certiorari, it argued that state and local governments' attempts to enforce their own tampering regulations are preempted because those regulations relate back to the original design of the engine by the original manufacturer.²⁰⁸ Such a drawn-out saga regarding the preemption issue will likely have a chilling effect on state and local government enforcement related to defeat device cases in the aftermarket context as well.

Despite this, state and local government enforcement is important to support federal enforcement efforts, particularly given challenges with citizen suit enforcement authority for defeat device cases. In addition to deciding the appropriate defendant, there have also been challenges calling into question the use of citizen suits to enforce Title II's anti-tampering provisions.²⁰⁹ In *Utah Physicians for a Healthy Environment v. TAP Worldwide*, defendant retailers of aftermarket automotive parts challenged whether the CAA's anti-tampering regulations are "emissions standards or limitations" under the Title II citizen suit provision.²¹⁰ By reading "emissions standards or limitations" as separate and distinct from "prohibited

were consolidated with actions brought by a number of other states and counties, including Wyoming, in the Northern District of California.

²⁰⁴ See *In re Volkswagen "Clean Diesel" Mktg., Sales Practices, & Prods. Liab. Litig.*, 264 F. Supp. 3d 1040, 1052–57 (N.D. Cal. 2017).

²⁰⁵ See *In re Volkswagen "Clean Diesel" Mktg., Sales Practices, & Prods. Liab. Litig.*, 959 F.3d 1201, 1209–10 (9th Cir. 2020).

²⁰⁶ See *id.* at 1211.

²⁰⁷ See *id.* at 1205.

²⁰⁸ Petition for Writ of Certiorari, *supra* note 202, at 26–27.

²⁰⁹ Paige Lambert, Note, *Citizen Suits for Mobile Sources: Enforcement Against Incidents of Emissions Cheating*, 32 COLO. NAT. RES., ENERGY & ENV'T L. REV. 341 (2021).

²¹⁰ Def's Motion to Dismiss at 6–8, *Utah Physicians for a Healthy Env't, Inc. v. TAP Worldwide* (D. Utah 2020) (No. 2:19-cv-00628-JNP-DBP).

acts,” TAP alleged that Title II citizen suits can only concern violations of an “objective measurement of air pollution emissions.”²¹¹ Thus, TAP argued, any citizen suits concerning anti-tampering violations are beyond the scope of Title II’s citizen suit provision.²¹² Relying on the plain text of the CAA and a similar Tenth Circuit case, the U.S. District Court for the District of Utah rejected TAP’s claim that the anti-tampering regulations are not “emissions standards or limitations” within the meaning of the statute.²¹³ However, other courts have found the opposite, including the Ninth Circuit in the Volkswagen case.²¹⁴

Then there are exceptions that impede aftermarket tampering enforcement cases. EPA regulations include a “racecar exemption” under which vehicles whose engines are modified solely for competitive use are exempted from anti-tampering prohibitions.²¹⁵ While vehicles modified for racing are lawful when used at the track, they are illegal when driven on public roads.²¹⁶ The exemption complicates tampering enforcement, as purchasers and sellers of defeat devices for on-road vehicles may circumvent the tampering prohibition simply by claiming a tampered vehicle was modified for use on the track.²¹⁷ EPA attempted to address this anomaly in 2015 and sought to amend the racecar exemption to clarify that motor vehicles are defined by the physical characteristics of the vehicle—those which make the vehicle suitable for racing—rather than

²¹¹ *Id.*

²¹² *See id.*

²¹³ *See* Mem. & Order Den. Def.’s Mot. to Dismiss, Utah Physicians for a Healthy Env’t, Inc. v. TAP Worldwide (D. Utah 2022) (No. 2:19-cv-628-DBB-DBP).

²¹⁴ *In re* Volkswagen “Clean Diesel” Mktg., Sales Pracs., and Prods. Liab. Litig., 894 F.3d 1030, 1042 (9th Cir. 2018) (“[T]he United States sued VW for violations of statutory provisions that are not, and do not incorporate, ‘standard[s], limitation[s], or order[s]’ within the meaning of § 7604(a)(1).”).

²¹⁵ *See* 40 C.F.R. § 1068.235(b) (2016).

²¹⁶ *See id.* (“This exemption applies only to the prohibition in § 1068.101(b)(1) and is valid only as long as the engine/equipment is *used solely for competition*”) (emphasis added).

²¹⁷ *See* Roy Furchgott, *Crackdown on Emissions Defeat Devices Has Amateur Racers Up in Arms*, N.Y. TIMES, May 13, 2021, <https://www.nytimes.com/2021/05/13/business/defeat-devices-clean-air-act.html>.

by the vehicle's *use* in racing.²¹⁸ In light of severe pushback from motorsports trade associations, EPA abandoned this effort in 2016.²¹⁹ A district court opinion in a 2021 EPA enforcement case exemplifies the role of the racing exception in enforcement, stating “[m]uch ink has been spilled already in this case regarding whether a motorsports exception, or exclusion, exists in the C.A.A.”²²⁰ Additionally, while not a formal exception, “EPA’s guidance has long stated that the agency would exercise enforcement discretion in the context of aftermarket part manufacture, sale, and installation where the individual has a ‘reasonable basis’ that the conduct will not adversely affect emissions.”²²¹ Such reasonable basis consideration is getting prime attention by regulated entities and law firm counsel for future defenses in enforcement cases.²²²

IV. IDENTIFYING “ENFORCEABILITY”

This Part suggests that, despite the frequent use of the term “enforceable” in environmental regulation, the term ultimately lacks meaningful substance due to the numerous hurdles that chip away at the actual ability to enforce. It provides an overview of where and how the term comes up in environmental law. It then argues for a

²¹⁸ See Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 80 Fed. Reg. 40,138, 40,527 (proposed July 13, 2015) (to be codified at 40 C.F.R. pts. 9, 22, 85, 86, 600, 1033, 1036, 1037, 1039, 1042, 1043, 1065, 1066, 1068).

²¹⁹ See Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478, 73,957 (Oct. 25 2016) (to be codified at 40 C.F.R. pts. 9, 22, 85, 86, 600, 1033, 1036, 1037, 1039, 1042, 1043, 1065, 1066, 1068) (“EPA’s focus is not . . . on vehicles built or used exclusively for racing, but on companies that violate the rules by making and selling products that disable pollution controls on motor vehicles used on public roads . . . Since our attempt to clarify led to confusion, EPA has decided to eliminate the proposed language from the final rule”).

²²⁰ Furchgott, *supra* note 217.

²²¹ Peter A. Tomasi & Amanda K. Beggs, *EPA Issues Revised Anti-Tampering Enf’t Pol’y & Requests Comments on Catalytic Converter Enf’t Pol’y*, FOLEY & LARDNER LLP DASHBOARD INSIGHTS (Dec. 8, 2020), <https://www.foley.com/en/insights/publications/2020/12/epa-revised-anti-tampering-enforcement-policy>; see also Lisa W. Coleman, *EPA Issues Enforcement Alert on Emissions Tampering*, EHS Daily Advisor (Mar. 2, 2021), <https://ehsdailyadvisor.blr.com/2021/03/epa-issues-enforcement-alert-on-emissions-tampering/> (referring to “reasonable basis” as a defense).

²²² See, e.g., Coleman, *supra* note 221; Tomasi, *supra* note 221.

more consistent and clear use of the term that reflects the reality for enforcers.

A. Costs of Continued Failure to Recognize Hurdles

All hurdles to enforcement will not and should not go away. Preemption doctrine, rooted in the Supremacy Clause of the U.S. Constitution, promotes national uniformity in regulations.²²³ Preclusion doctrine helps avoid jurisdictional strife and duplicative litigation.²²⁴ Political hurdles allow duly elected administrations to shape their own enforcement policy. Even resource hurdles have value in a world in which there is a need for government agencies and citizen environmental groups to make difficult spending choices across priority areas. Indeed, there are very good reasons that legal, regulatory, resource, and political hurdles exist.

Yet, enforcement cannot meet expectations for real results with hurdles in the way. Communities hope and expect that someone will enforce pollution permits and standards. There is clear frustration over the lack of enforcement in communities, especially environmental justice communities. Community groups in Chicago, Illinois have vehemently objected to the failure of city and state government enforcement action to go beyond citations at an asphalt plant that has had a questionable history on accounting for all pollution sources in permit applications.²²⁵ Communities in Camden, New Jersey have dealt with situations where the state cited and fined a plant for sixteen violations of state environmental regulations, but “the plant never paid the fines, the odors did not cease, and the group discovered that the plant’s odor control equipment was not sufficient to control the odors produced by its operations.”²²⁶ In listening

²²³ See Jay B. Sykes & Nicole Vanatko, CONG. RSCH. SERV., R45825, Federal Preemption: A Legal Primer (2019), <https://fas.org/sgp/crs/misc/R45825.pdf>.

²²⁴ See William D. Benton, *Application of Res Judicata and Collateral Estoppel to EPA Overfiling*, 16 BOS. COLL. ENV’T AFF. L. REV. 199, 200–01 (1988).

²²⁵ See NEIGHBORS FOR ENV’T JUST., *Stop MAT Asphalt!*, <https://n4ej.org/stop-mat-asphalt/> (last visited Nov. 2, 2021) (stating that “[a]t no point did any regulatory agency actually measure the emissions of the plant to see if they were complying with their permit. Of the six types of pollution restricted in their (expired) permit, four have still never been measured by anyone.”).

²²⁶ Sheila R. Foster, *The Challenge of Environmental Justice*, 1 RUTGERS J. L. & URBAN POL’Y 1, 6 (2004) (the citizens with the help of pro bono attorneys, filed a lawsuit demanding that the DEP bring the plant into compliance with environmental regulations. The lawsuit was eventually settled.).

sessions conducted by the Pennsylvania Department of Environmental Protection in 2017, one commenter testified “that there is really no information provided to the public about permit violations.”²²⁷ In listening sessions conducted by FERC in the spring of 2021, individuals from across the nation commented that the FERC permit processes have favored corporate fossil fuel applicants in administrative hearings at the expense of actual people, particularly those in rural and low-income communities.²²⁸

Moreover, with hurdles in the way, enforcement cannot address the issues that researchers and auditors have found with fairness and process within environmental enforcement. As recently as July 2021, researchers studied administrative data from state implementation of the CWA and “demographic information around large, regulated facilities” and found “that state regulators’ inspection response time is slower toward noncompliant facilities located in communities that have higher percentages of poor and Hispanic citizens.”²²⁹ Other researchers have found disparities in other kinds of enforcement actions beyond inspection, including in assessing penalties and in cleanup actions.²³⁰ In addition, a state audit in New Orleans found that “it could take as long as nine years from the time a company was cited for violating emission standards before it was ordered to pay a fine or had a settlement approved requiring the company to pay for a mitigation project.”²³¹ Such findings in

²²⁷ PA. DEP’T OF ENV’T PROT., OFF. OF ENV’T JUST., LISTENING SESSION TOUR, Comment Document, Comment 22, at 9 (2017), <https://files.dep.state.pa.us/PublicParticipation/Office%20of%20Environmental%20Advocacy/EnvAdvocacyPortal-Files/2017/OEJ%20Listening%20Session%20Comment%20Document%20Categorization%20Order%20Final.pdf>.

²²⁸ See FED. ENERGY REGUL. COMM’N., OFF. OF PUB. PARTICIPATION LISTENING SESSIONS: LANDOWNERS AND COMMUNITIES AFFECTED BY INFRASTRUCTURE DEVELOPMENT (Mar. 17, 2021) (transcript available at <https://www.ferc.gov/news-events/events/opp-listening-sessions-landowners-and-communities-affected-infrastructure>).

²²⁹ David M. Konisky, et al., *Environmental Injustice in Clear Water Act Enforcement: Racial and Income Disparities in Inspection Time*, 16 ENV’T RSCH. LETTERS 1, 1 (2021).

²³⁰ See Robert R. Kuehn, *Remedying the Unequal Enforcement of Environmental Laws*, 9 ST. JOHN’S J. LEGAL COMMENT. 625, 662 (1994).

²³¹ ASSOCIATED PRESS, *Audit: Louisiana needs to improve emissions enforcement*, (Jan. 26, 2021), <https://apnews.com/article/technology-business-louisiana-5a7047ce2bc7eb6b45a2d87bb4883c1a>.

research and audits are likely to continue in a world of enduring hurdles to actual enforceability of environmental laws and regulations.

Failure to recognize enforcement hurdles could lead to further unexpected consequences. Industry defendants might push for opportunities to use preclusion arguments by quickly settling with state enforcers, knowing that federal enforcers are more likely to require greater penalties and remedies for communities.²³² Regulation writers might assume that because many environmental laws operate under a cooperative federalism model, state and local preemption is not a significant concern in environmental law.²³³ Scholars might think that citizen suit enforcement can gap-fill for low agency enforcement resources, when in reality, preclusion and preemption hurdles impede citizen suit enforcement too.²³⁴ Environmental funders may put money towards enforcement efforts that are ultimately ineffective. At a minimum, an understanding of the impact of hurdles to enforceability is central to any environmental law or regulation's long-term compliance—and noncompliance—outlook.²³⁵

²³² See Ethan Ware, *DOJ Defers to States for CWA Enforcement*, WILLIAMS MULLEN (Jan. 12, 2021), <https://www.jdsupra.com/legalnews/doj-defers-to-states-for-cwa-enforcement-3382854> (“The threat of EPA administrative action often drives industry to consider quick, administrative settlements with state or local environmental agencies for even the slightest environmental violations. Unless the Biden administration changes course, industries can now do the same to avoid federal civil actions for Clean Water Act violations.”).

²³³ See Clifford L. Rechtschaffen & David L. Markell, *REINVENTING ENVIRONMENTAL ENFORCEMENT AND THE STATE/FEDERAL RELATIONSHIPS* 43 (2003) (describing that “preemption is unlikely to be a major doctrinal issue in the ‘cooperative federalism’ context” because states are allowed to set more stringent standards).

²³⁴ See David E. Adelman & Robert L. Glicksman, *Reevaluating Citizen Suits in Theory and Practice*, 91 U. COLO. L. REV. 385, 385 (2020) (“Citizen suits are frequently cited as an essential legal innovation by virtue of their capacity to provide a backstop to lax or ideologically antagonistic administrations.”).

²³⁵ Some state governments and the Biden administration are indeed starting to look at hurdles in enforcement. See Moe Clark, *There's a Push to Increase Fines for Colorado Polluters and Directly Help Impacted Communities*, COLO. SUN (Feb. 21, 2020), <https://coloradosun.com/2020/02/21/increased-penalties-pollution-environmental-justice/>; Memorandum from Lawrence E. Starfield, Acting Assistant Administrator, EPA, Off. of Enf't & Compliance Assurance (June 21, 2021), <https://www.epa.gov/system/files/documents/2021-07/strengtheningejthroughcriminal062121.pdf> (stating that EPA will strive “to ensure that

B. Use of the Term “Enforceable”

Many of the nation’s environmental statutes and regulations frequently use the term “enforceable” to refer to pollution and anti-pollution standards. The term appears in statutes so varied as to cover environmental mitigation, coastal pollution, point source water discharges, air emissions, and credit trading programs. In some statutes, as described below, the term appears prominently, while in others the term is buried within the definition of a definition of another relevant term. It is important, nonetheless, to recognize the existence of the term and where and how it is used before attempting to understand and define it.

NEPA: Under NEPA, agencies must conduct some level of environmental review for any federal action that significantly affects the environment, including, for example, funding of large polluting infrastructure projects like pipelines, roads, and railways.²³⁶ An agency may issue a Finding of No Significant Environmental Impact (FONSI) and skip the more detailed level of environmental review, so long as the agency commits to performing mitigation measures to avoid, rectify, or minimize the adverse environmental impact of the project.²³⁷ This type of so-called “mitigated FONSI,” however, requires that the mitigation measures are *enforceable*.²³⁸ In addition, under California’s NEPA equivalent, a public agency is required to mitigate or avoid significant environmental effects of a project if it is feasible to do so, and such mitigation measures adopted by the agency must be fully *enforceable*.²³⁹

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA): CZARA refers to the term “enforceable” in its coastal nonpoint pollution control program, which was established under

prosecutions will generate remedies that yield meaningful [results and] protection for communities” that have been harmed, including restitution).

²³⁶ See *National Environmental Policy Act Review Process*, EPA (last updated Oct. 25, 2021), <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>; Tyler Andrew Scott et al., *NEPA and National Trends in Federal Infrastructure Siting in the United States*, 37 REV. POL’Y RSCH. 605, 615–18 (2020).

²³⁷ Memorandum from Nancy H. Shutley, Exec. Off. of the President, Council on Env’t Quality, to Heads of Fed. Dep’t and Agencies, at 7 n.18 (Jan. 14, 2011), https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf.

²³⁸ See *id.*

²³⁹ Cal. Pub. Res. Code § 21081.6(b) (1994).

the National Oceanic and Atmospheric Administration (NOAA), and sets management measures for states to use in controlling runoff from agriculture, forestry, urban areas, marinas, and hydromodification.²⁴⁰ All coastal and Great Lakes states and territories that participate in the program are required to develop state coastal nonpoint pollution control programs.²⁴¹ Before approving a “management program submitted by a coastal state,” NOAA must “find that the management program contains *enforceable* policies and mechanisms to implement the applicable requirements” of the state’s program.²⁴²

CWA: The CWA also references the term “enforceable,” particularly in its National Pollutant Discharge Elimination System (NPDES) permit system.²⁴³ Under the CWA’s NPDES permit system, the states are required to develop water quality standards.²⁴⁴ To meet national water quality standards set by EPA, a polluter must comply with effluent limitations, as proscribed in a NPDES permit.²⁴⁵ The CWA defines an effluent limitation as any restriction established for a pollutant discharged from the source, including schedules of compliance.²⁴⁶ Further, the CWA defines “schedule of compliance” as “a schedule of remedial measures including an *enforceable* sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.”²⁴⁷ The CWA also requires publicly owned treatment works (POTW) to develop a pretreatment program. EPA implementing regulations require that the state agency then reissue the POTW’s

²⁴⁰ See NOAA & EPA, COASTAL NONPOINT APPROVAL PROGRAM, PROGRAM DEVELOPMENT AND APPROVAL GUIDANCE vii (1993), <https://coast.noaa.gov/data/czm/pollutioncontrol/media/6217proguidance.pdf> (last visited Nov. 3, 2021).

²⁴¹ *Id.*

²⁴² 16 U.S.C. §§ 1455(d)(16).

²⁴³ In general, the CWA prohibits the discharge of any pollutant by any person unless a statutory exception applies. The most prominent exception is for holders of a NPDES permit. 33 U.S.C. §§ 1311(a), 1342.

²⁴⁴ 33 U.S.C. § 1313(a).

²⁴⁵ 33 U.S.C. § 1311(b)(1)(A).

²⁴⁶ 33 U.S.C. § 1362(11).

²⁴⁷ 33 U.S.C. § 1362(17).

NPDES permit to incorporate the approved pretreatment program as *enforceable* conditions of the NPDES permit.²⁴⁸

Underground Injection Control Regulations: The Safe Drinking Water Act (SDWA) and Resource Conservation and Recovery Act (RCRA) use the term “enforceable” for their underground injection control program in ways that are similar to the CWA.²⁴⁹ Under the relevant regulations, underground “injection activities, including construction of an injection well are prohibited until the owner or operator is authorized by permit.”²⁵⁰ The regulations allow for permits to include a “schedule of compliance.”²⁵¹ In addition, like the CWA, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) includes underground storage tank regulations that also define a schedule of compliance as remedial measures, “including an *enforceable* sequence of interim requirements, [such as] actions, operations, or milestone events.”²⁵² Such remedial measures are important for communities, particularly given the kinds of substances regulated by underground injection control (UIC) permits, including gasoline, diesel, kerosene, and other highly polluting substances.²⁵³

RCRA: Regulations under RCRA require owners and operators who treat or store hazardous waste at a unit under a permit to demonstrate financial assurance for the closure and liability of such unit.²⁵⁴ An owner or operator can “meet the financial assurance requirements by obtaining a written guarantee” from a specified kind of firm, including a firm with a “substantial business relationship” with the owner or operator.²⁵⁵ In order to qualify as a “substantial business relationship,” the relationship must be the kind of business relationship necessary under relevant state law to ensure that a guarantee contract issued in connection with that relationship is valid

²⁴⁸ 40 C.F.R. § 403.8(c) (2021).

²⁴⁹ See 40 C.F.R. § 144.51 (2021).

²⁵⁰ *Id.*

²⁵¹ 40 C.F.R. § 147.2921 (2021).

²⁵² 40 C.F.R. § 144.3 (2021).

²⁵³ See EPA, INTRODUCTION TO THE UNDERGROUND INJECTION CONTROL PROGRAM (2018), https://www.epa.gov/sites/production/files/2018-06/documents/introduction_to_training_course_and_uic_overview_2018_-_nathan_wiser.pdf (last visited Nov. 2, 2021).

²⁵⁴ See 40 C.F.R. § 267.143 (2021).

²⁵⁵ 40 C.F.R. § 267.143 (g)(1) (2021).

and *enforceable*.²⁵⁶ RCRA also requires that owners/operators must have permits, or another *enforceable* documents, for the active life and post closure periods of hazardous waste units.²⁵⁷

CAA: Regulations implementing the *CAA* use the term “enforceable” throughout the formulation and implementation of the National Ambient Air Quality Standards (NAAQS). Pursuant to the *CAA*, EPA designates areas of the country as either in “attainment,” “nonattainment,” or “unclassifiable.”²⁵⁸ Afterwards it is up to the states to draft a SIP for each pollutant, subject to EPA approval, that specifies how the state will achieve or maintain attainment status.²⁵⁹ The *CAA* requires that a SIP “include *enforceable* emission limitations and other control measures, means, or techniques.”²⁶⁰ Additionally, EPA regulations regarding SIPs specify that “a regulatory limit is not *enforceable* if . . . it is impractical to determine compliance with the published limit.”²⁶¹ Further, EPA can only approve a re-designation for attainment status if, among other things, EPA determines that the “improvement in air quality is due to permanent and *enforceable* reductions in emissions.”²⁶²

The *CAA* also requires that the SIPs for nonattainment areas “provide for the implementation of all reasonably available control measures as expeditiously as practicable.”²⁶³ Such SIPs must also specifically “include *enforceable* emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights) . . . as may be necessary or appropriate to provide for attainment of such standard.”²⁶⁴ In a 1997 case, after EPA revised

²⁵⁶ 40 C.F.R. § 267.141(h) (2021).

²⁵⁷ See 40 C.F.R. § 270.1(c) (2021).

²⁵⁸ 42 U.S.C. § 7407(d).

²⁵⁹ See 42 U.S.C. § 7410(a)-(k).

²⁶⁰ 42 U.S.C. § 7410(a)(2). In addition, EPA’s guidance for a SIP’s inclusion of energy efficiency measures from electricity generation emphasizes that emission reductions included in SIP’s must be quantifiable, surplus, and *enforceable*. See Memorandum from Brian McLean, Director, Off. of Atmospheric Programs, EPA, to Reg’l Air Div. Dir. (Aug. 5, 2004), https://www.epa.gov/sites/production/files/2016-02/documents/guidance_on_sip_credits.pdf.

²⁶¹ State Implementation Plans, 57 Fed. Reg. 13,498, 13,568 (Apr. 16, 1992) (to be codified at 40 C.F.R. pt. 52); see *id.*

²⁶² 42 U.S.C. § 7407(d)(3)(E).

²⁶³ 42 U.S.C. § 7502(c)(1).

²⁶⁴ 42 U.S.C. § 7502 (c)(6).

the NAAQS for ozone, several states, environmental groups, and trade associations challenged EPA's conclusion that states could satisfy the applicable reasonable available control technology (RACT) requirement by participating in two specific cap-and-trade programs.²⁶⁵ The court found that the CAA authorizes EPA to approve market-based measures in addition to other enforceable controls.²⁶⁶ The cap-and-trade program itself was not enough to meet the enforceable requirement.²⁶⁷ Similarly, in a 2015 case, EPA determined that the Cincinnati-Hamilton metropolitan area had attained the NAAQS for particulate matter, in part due to regional cap-and-trade programs that "reduced the flow of interstate pollution."²⁶⁸ Pointing to the language of the CAA, plaintiff Sierra Club argued that Congress did not intend for reductions attributable to cap-and-trade programs to meet the "enforceable" requirement for re-designation.²⁶⁹ The court ultimately disagreed with the Sierra Club, but struggled in its decision, specifically noting that the CAA does not define enforceable nor did the Sierra Club offer a definition.²⁷⁰

The term "enforceable" is also increasingly arising in laws and regulations involving greenhouse gas emissions. For example, EPA regulations under the CAA establish national standards of performance (NSPs) limiting greenhouse gas (GHG) emissions from certain designated power plants.²⁷¹ Standards of performance for designated facilities included under a state's "plan must be demonstrated to be quantifiable, verifiable, permanent, and *enforceable* with respect to each designated [power plant]."²⁷² State market-based regulations, such as California's trading program for GHGs, also refer to the term "enforceable" in definitions of offsets. In order to qualify as an emission reduction, the offsets must be "real,

²⁶⁵ See *Nat. Res. Def. Council v. EPA*, 571 F.3d 1245, 1252 (D.C. Cir. 2009).

²⁶⁶ See *id.* at 1258.

²⁶⁷ See *id.*

²⁶⁸ *Sierra Club v. EPA*, 793 F.3d 656, 659 (6th Cir. 2015).

²⁶⁹ See *id.* at 661 (6th Cir. 2015).

²⁷⁰ See *id.* at 667.

²⁷¹ See 40 C.F.R. § 60.5700a (2021).

²⁷² 40 C.F.R. § 60.5755a(b) (2021).

permanent, quantifiable, verifiable, and *enforceable*.”²⁷³ Such language for GHG programs is the same as language from emission banking and offset programs for other pollutants in many states, such as Arizona’s voluntary emissions banking system for NAAQS pollutants.²⁷⁴

C. Defining “Enforceable”

Widespread use of the term “enforceable” in environmental law certainly signals an intent by drafters to focus on actual implementation of environmental law. Yet, despite such widespread use of the term, there is no unified definition or understanding of the term. To be sure, there are scattered definitions in white papers, agency regulations, and guidance documents.²⁷⁵ Yet, without a clear picture of what the term “enforceable” means in practice, it has little substantive effect when drafters use it in environmental law. Moreover, it sets up expectations, particularly for local communities most affected by environmental noncompliance, that ignore the realities of the hurdles that exist in actual enforceability.

Within regulations implementing the CAA alone, there are multiple definitions and interpretations of the term “enforceable.” EPA’s CAA regulations for air quality standards on tribal lands provide that “an emission limitation or other standard is legally enforceable if the reviewing authority has the right to enforce it.”²⁷⁶ The preamble to EPA’s regulation for re-designation and SIPs, for example, states that:

²⁷³ See, e.g., CAL. HEALTH & SAFETY CODE § 38562(d)(1) *et seq.* (Deering 2021) (Offsets are credits for emission reductions in uncovered sources and sectors to be used by covered entities to meet compliance obligations under the cap. Once accepted, offsets are treated as equivalent for compliance purposes, to other allowances.).

²⁷⁴ See ARIZ. ADMIN. CODE § R18-2-1205 (2020).

²⁷⁵ For example, the Environmental Law Institute defines an enforceable mechanism as a standard applicable to an identified entity or entities, a sanction such as a penalty, or loss of a license, and performance of required remedial action, and a process for applying the standard and imposing the sanction. See ENV’T L. INST., ENFORCEABLE STATE MECHANISMS FOR THE CONTROL OF NONPOINT SOURCE WATER POLLUTION 6 (1997), <https://www.eli.org/sites/default/files/eli-pubs/d7.06.pdf>.

²⁷⁶ See, e.g., 40 C.F.R. § 49.167 (2021).

Measures are enforceable when they are duly adopted, and specify clear, unambiguous, and measurable requirements.²⁷⁷ A legal means for ensuring that sources are in compliance with the control measure must also exist in order for a measure to be enforceable.²⁷⁸

The state of Arizona defines enforceable under its voluntary NAAQS pollutant banking system as requiring specific measures for assessing compliance with an emission limitation, control, or other requirement, in a manner that allows compliance to be readily determined by an inspection of records and reports.²⁷⁹ EPA has further CAA guidance that uses the phrase “*enforceable as a practical matter*” or “*practically enforceable*” to further qualify the term enforceable for air permits under the CAA.²⁸⁰ In order for air permits to be “enforceable as a practical matter,” they must include information on applicability, compliance date, and specificity of conduct, any incorporation by reference, and exemptions and exceptions.²⁸¹

²⁷⁷ Before EPA may redesignate a nonattainment area, the CAA mandates, among other things, that it (1) “determine[] that the area has attained the applicable [NAAQS]” (*i.e.*, that ozone has decreased sufficiently) and (2) “determine[] that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from the SIP and applicable Federal air pollutant control regulations and other permanent and enforceable reductions.” See 42 U.S.C. § 7407(d)(3)(E). After Congress amended the CAA in 1990, EPA articulated its interpretation of this provision of the statute in the State Implementation Plans: General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990. See 57 Fed. Reg. 13,498, 13,561–64 (Apr. 16, 1992).

²⁷⁸ See *Sierra Club v. EPA*, 774 F.3d 383, 393 (7th Cir. 2014) (citing State Implementation Plans: General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 13,498, 13,568 (Apr. 16, 1992)).

²⁷⁹ See ARIZ. ADMIN. CODE § R18-2-1201 (2020).

²⁸⁰ EPA generally interprets the term “federal enforceability” to require “practical enforceability.” See *Piedmont Green Power, LLC*, 2016 WL 7489674 (EPA n.4 (2016) (order granting petition for objection to permit).

²⁸¹ See *e.g.*, EPA, NEW SOURCE REVIEW WORKSHOP MANUAL H.6 (Oct. 1990), <https://www.epa.gov/sites/default/files/2015-07/documents/1990wman.pdf>; 40 C.F.R. § 49.152 (2016) (practical enforceability for an emission limitation or for other standards (design standards, equipment standards, work practices, operational standards, pollution prevention techniques) in a permit for a source is achieved if the permit’s provisions specify: “(i) A limitation or standard. . . (ii) The time period for the limitation or standard. . . (iii) The method to determine compliance, including appropriate monitoring, recordkeeping, reporting and testing.”).

Other environmental laws and regulations such as agency-specific NEPA regulations, use the term “feasible” to denote similar concepts as the term “enforceable.” For example, to comply with the California Environmental Quality Act (CEQA), an environmental impact report’s mitigation measures must be enforceable and likely to be effective, so as to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded.²⁸² CEQA regulations further define “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.”²⁸³ The U.S. Army’s NEPA regulations also look at specific factors in deciding whether proposed mitigation measures are “practical,” including “military mission, manpower restrictions, cost, institutional barriers, technical feasibility, and public acceptance.”²⁸⁴ Further, the U.S. Army NEPA regulations state that “practicality does not necessarily ensure resolution of conflicts among these items, rather it is the degree of conflict that determines practicality.”²⁸⁵

Without more clarity on terms like “enforceable,” “feasible,” and “practical,” courts will continue to struggle. Courts currently diverge when it comes to evaluating the validity of FONSI that rely on agreements by regulated entities to implement certain mitigation measures. In *Hillsdale Env’t Loss Prevention, Inc. v. U.S. Army Corps of Eng’rs*, the Tenth Circuit upheld a mitigation agreement between the project applicant and the state agency, despite plaintiff’s concern over the agreement’s enforceability.²⁸⁶ In that case, the federal government issued a FONSI for fugitive dust emissions associated with the project, where the project applicant had also entered into a binding agreement with the state environmental agency to monitor dust emissions at the project site and adopt mitigation

²⁸² CAL. PUB. RES. CODE § 21081 (Deering 2021).

²⁸³ CAL. CODE REGS. tit. 14, § 15364 (2021).

²⁸⁴ Environmental Analysis of Army Actions, 32 C.F.R. § 651.15(d) (2021).

²⁸⁵ *Id.*

²⁸⁶ See *Hillsdale Env’t Loss Prevention, Inc. v. U.S. Army Corps of Eng’rs*, 702 F.3d 1156 (10th Cir. 2012) (NEPA case involving new intermodal facility in the Kansas City area. The existing facility was inadequate to handle the current volume of freight shipped through Kansas City and lacked space to expand).

measures should emissions exceed specified levels.²⁸⁷ In particular, if dust concentrations exceeded specified levels, the project applicant was required to work with the Kansas Department of Health and the Environment “to determine the cause of the elevated dust emissions” and then take “steps to reduce those emissions.”²⁸⁸ The plaintiffs in *Hillsdale* argued that there were no studies supporting the effectiveness of the mitigation options in the agreement, and that the monitoring period was too brief because it did not cover construction of the intermodal facility and would expire in two years.²⁸⁹ The court, however, found that even in the absence of studies, the federal agency did not commit a clear error in judgment by basing its FONSI on the mitigation agreement, presuming that the state agency would later uphold its duty to protect air quality and either extend the mitigation agreement or continue independent monitoring, as necessary.²⁹⁰ By contrast, in other cases like *Davis v. Mineta*, the Tenth Circuit found insufficient a FONSI that relied on only a list of potential noise abatement mitigation measures associated with a large road project without any supporting data or any basis for concluding the measures would actually occur.²⁹¹ The plan in that case made no firm commitment to any noise mitigation measures, and the environmental analysis leading up to the FONSI had actually rejected a number of the proposed mitigation measures as incompatible with the project’s purpose.²⁹² Moreover, when agencies have not pursued a FONSI and instead completed a more detailed environmental review, courts have found that proposed

²⁸⁷ See *id.* at 1164, 1172.

²⁸⁸ See *id.* at 1172.

²⁸⁹ See *id.* at 1172–73 (describing how plaintiffs specifically argued that business at the intermodal facility is projected to increase for at least twenty years, bringing with it the potential for increased dust emissions).

²⁹⁰ See *id.* at 1173 (citing to another case “where mitigation measures have been found to be sufficiently supported when based on studies conducted by the agency . . . or when they are likely to be adequately policed.”) (quoting *Nat’l Audobon Soc’y v. Hoffman*, 132 F.3d 7, 17 (2d Cir. 1997)). Additionally, in another Tenth Circuit case, the court upheld a mitigation plan that merely called for monitoring eagle activity and required that “construction activities be modified immediately” if the monitoring demonstrated that indeed the eagles were disturbed, without specifying what these modifications should be. *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1276–77 (10th Cir. 2004).

²⁹¹ *Davis v. Mineta*, 302 F.3d 1104, 1125 (10th Cir. 2002).

²⁹² See *id.*

mitigation measures “need not be legally enforceable, funded or even in final form to comply with NEPA’s procedural requirements.”²⁹³ A more informed understanding of the term “enforceable” would help courts grapple with how to evaluate mitigation measures proposed in a NEPA FONSI court challenge.

Thus, as a starting point, the federal government, particularly the OMB, should issue guidance on the term “enforceable” and related terms like feasible. Current OMB guidance on regulatory development simply states that agencies should consider the “most appropriate enforcement framework” including “on-site inspections, periodic reporting, and noncompliance penalties.”²⁹⁴ Such guidance on the whole, however, provides little instruction for a topic as fundamental as enforcement. An amendment to this current OMB guidance to more deeply consider the terms and phrases “enforceable,” “enforceable as a practical matter,” “practical,” and “feasible,” is warranted.

Indeed, OMB should consider issuing an amended guidance document on environmental enforcement and the term “enforceable.” In particular, such amended guidance should state that a pollution or anti-pollution standard is enforceable only if enforcers have the resource, regulatory, and legal ability to enforce against violations.²⁹⁵ Under such a definition, the term “enforceable” would include agency consideration of the likelihood of funding for the anticipated enforcer.²⁹⁶ Under such a definition, the term

²⁹³ Nat’l Parks & Conservation Ass’n v. U.S. Dep’t of Transp., 222 F.3d 677, 681 n.4 (9th Cir. 2000) (emphasis added).

²⁹⁴ OFF. OF MGMT. & BUDGET, CIRCULAR A-4 (Sept. 17, 2003), https://obamawhitehouse.archives.gov/omb/circulars_a004_a-4/#c.

²⁹⁵ Indeed, the relatively new (2017) performance standard regulation for greenhouse gases for electric generating units, includes a definition of “enforceable” that has some of the elements and scope to the suggested definition here in this article. Under such regulation, an emission standard is enforceable if it specifies a limitation and a time period for the limitation, compliance requirements are clearly defined, the facility responsible for compliance and liable for violations can be identified, each compliance activity or measure is enforceable as a practical matter, and the EPA, state, and third parties maintain the ability to enforce against violations. See 40 C.F.R. § 60.5755a(f) (2021).

²⁹⁶ See Memorandum from Richard D. Wilson, Acting Assistant Administrator for Air and Radiation, EPA, to EPA Regional Administrators 4 (Oct. 24, 1997), <https://www.epa.gov/sites/default/files/2016-05/documents/vmep-gud.pdf> (suggesting that states must be able to make a resource commitment to monitor, assess and report on emission reductions resulting from any voluntary measures).

“enforceable” would include the likelihood of anticipated enforcers facing preclusion or preemption claims in an eventual enforcement action.²⁹⁷ Under such a definition, the term “enforceable” would also include clear anticipation of defenses, including those based on exceptions, permit shields, and other parts of the underlying regulation itself. In essence, amended OMB guidance would require agencies to consider up-front, in drafting regulations and guidance, the realities enforcers are likely to face in the future, when inevitable non-compliance amongst regulated entities surfaces.

Further, such amended guidance should clarify that while establishing a regime for the *potential* ability to enforce against violations is important, it is not sufficient. Such a focus on a regime for potential enforcement is not without merit. Indeed, any enforcement regime must start with authority to enforce.²⁹⁸ The dictionary defines “able” as having the power, skill, means, or opportunity to do something.²⁹⁹ Thus, it makes sense that providing enforcers with the power, skill, means, or opportunity to enforce goes to the core of the term enforce-able. The problem is that in practice, merely establishing a regime for *potential* enforcement does not translate to *actual* enforcement. Indeed, the dictionary defines “feasible” as possible to do easily or conveniently, likely, or probable.³⁰⁰ Thus, amended guidance should grapple with the use of terms like “enforceable”

²⁹⁷ See, e.g., *Assoc. of Irrigated Residents v. Kern County Bd. Of Supervisors*, 17 Cal. App. 5th 708, 752 (2017) (plaintiffs arguing that “federal preemption is a legal factor affecting feasibility.”).

²⁹⁸ For example, a study of several Asian countries found gaps in authority to enforce, particularly with respect to the ability to require “monitoring of pollution discharges, fill[ing] criminal or civil cases, tak[ing] emergency response actions (such as closing a facility), impos[ing] penalties, or order[ing] corrective measures.” U.N. ENV’T PROG., ENVIRONMENTAL RULE OF LAW: FIRST GLOBAL REPORT 47 (2019), <https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report>. Without first addressing such gaps in authority and ensuring that someone has the ability to hold regulated entities accountable, any additional measures to improve enforceability of environmental regulations will likely not be effective.

²⁹⁹ *Able*, MERRIAM-WEBSTER ONLINE DICTIONARY, <https://www.merriam-webster.com/dictionary/able> (last visited Sept. 29, 2021).

³⁰⁰ *Feasible*, LEXICO, [lexico.com/en/definition/feasible](https://www.lexico.com/en/definition/feasible) (last visited Nov. 3, 2021); see also *Feasible*, MERRIAM-WEBSTER ONLINE DICTIONARY, <https://www.merriam-webster.com/dictionary/feasible> (last visited Nov. 22, 2021) (defining “feasible” as “possible to do” and “capable of being done or carried out”).

and “feasible” to help ensure that future enforcement will not only potentially exist, but also have the real ability to actually exist.³⁰¹

This is not the first article to push for more rigor in environmental law and regulation. Professor Joseph Aldy, for example, has recently pushed for EPA to stage a framework for retrospective analysis of a regulation. According to Aldy, “designing and implementing rules to enable retrospective analyses can produce information about the realized environmental outcomes, public-health impacts, benefits, costs, labor-market impacts, and other factors.”³⁰² Other scholars spend ample time debating how cost-benefit analysis should be—or not be—redone.³⁰³ Still other scholars are arguing for new environmental regulations in areas that are not regulated at all or are under-regulated, such as energy efficiency and coal ash disposal.³⁰⁴ That is not to say that scholars are not addressing individual legal and regulatory hurdles to enforcement in given contexts. For example, scholars have identified key preemption hurdles to implementation and enforcement of energy efficiency standards.³⁰⁵ Yet, with the importance of enforcement and enforceability as a cross-cutting topic across multiple areas of environmental law, it is time to examine environmental enforceability across agency drafting writ large, and that should come through guidance from the top.

CONCLUSION

This Article argues for consideration of resource, regulatory, and legal hurdles in attempts to make pollution and anti-pollution standards actually enforceable over the long-term in the United

³⁰¹ See *Hillsdale Env't Loss Prevention, Inc. v. U.S. Army Corps of Eng'r*, 702 F.3d 1156, 1173 (10th Cir. 2012) (rejecting plaintiffs' insinuation that enforcement may not happen, stating that state agency has duty and court “presumes” that state agency will perform that duty).

³⁰² Joseph E. Aldy, *Evaluating Regulatory Performance: Learning from and Institutionalizing Retrospective Analysis of EPA Regulations*, 70 CASE W. RES. L. REV. 971, 1005–06 (2020).

³⁰³ See Vartan Shadarevian & Robert Delaney, *Multiple-Rule Cost Benefit Analysis*, 15 CHARLESTON L. REV. 373 (2021).

³⁰⁴ See Noah M. Sachs, *Can We Regulate Our Way to Energy Efficiency? Product Standards as Climate Policy*, 65 VAND. L. REV. 1631 (2012); Thomas O. McGarity & Rena I. Steinzor, *The End Game of Deregulation: Myopic Risk Management and the Next Catastrophe*, 23 DUKE ENV'T L. & POL'Y F. 93 (2012).

³⁰⁵ See, e.g., Ann E. Carlson, *Energy Efficiency and Federalism*, 1 SAN DIEGO J. CLIMATE & ENERGY L. 11 (2009).

States. In addition, because enforcement agencies abroad face similar hurdles and enforceability concerns as in the United States, there is significant opportunity for increased scholarly and practice-based attention to these issues in the international context as well.³⁰⁶ In China, scholars have recognized the importance of political hurdles, suggesting that local pollution enforcement officials in particular are often beholden to local political officials, who tend to favor development and industry interests over environmental concerns.³⁰⁷ In India, researchers have found that coordination and state/federal jurisdictional hurdles, similar to preclusion and preemption hurdles in the United States, are barriers to effective environmental enforcement.³⁰⁸ On the case study identified in this article, it is clear that the European Union is looking to the United States for ideas on enforcement of defeat devices, which are a pervasive non-compliance problem in multiple European countries.³⁰⁹ Deeper discussion about hurdles to environmental enforceability in the international context is beyond the scope of this Article. However, it is likely an excellent topic for established international networks, such as the International Network for Compliance and Enforcement (INECE), to undertake.³¹⁰

³⁰⁶ See, e.g., Martin Nesbit, et al., *Ensuring Compliance with Environmental Obligations Through a Future UK-EU Relationship*, INST. FOR EUR. ENV'T POL'Y (Oct. 2017), <https://ieep.eu/publications/ensuring-compliance-with-environmental-obligations-through-a-future-uk-eu-relationship>.

³⁰⁷ See, e.g., Juan Chu, *Vindicating Public Environmental Interest: Defining the Role of Public Interest Litigation in China*, 45 *ECOLOGY L.Q.* 485, 502–03 (2018).

³⁰⁸ OECD, ENVIRONMENTAL ENFORCEMENT IN INDIA: A RAPID ASSESSMENT 14–15 (2006), <https://www.oecd.org/env/outreach/37838061.pdf>.

³⁰⁹ See Pete Grabiell & Tim Grabiell, *Strengthening the Regulation of Defeat Devices in the European Union*, INT'L COUNS. ON CLEAN TRANSP. (2016), https://theicct.org/sites/default/files/publications/DefTerre_StrengtheningDefeatDeviceRegulation_Briefing_jun2016.pdf.

³¹⁰ See ENV'T L. INST., *International Network for Environmental Compliance and Enforcement*, <https://www.eli.org/environmental-governance/inece> (last visited Oct. 7, 2021).