VOLUNTARY REGULATION

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Regulation is ubiquitous in the modern administrative state, profoundly impacting areas as diverse as antitrust, environmental protection, road safety, and telecommunications. Most often, the term regulation is associated with a set of rules that administrative agencies enforce by imposing penalties or other sanctions, an approach scholars and policymakers refer to as mandatory regulation. In recent times, however, voluntary regulation—that is, government initiatives guiding people's and firms' behaviors by resorting to persuasion rather than mandates—has gained significant traction. Federal statutes authorizing billions of dollars in spending, such as the Inflation Reduction Act and the Farm Bill, rely heavily on this form of regulation.

Despite its importance, many aspects of voluntary regulation remain undertheorized, including the question of when and under what circumstances policymakers should use it. This Article fills this gap by analyzing some of the most notable voluntary programs and, based on this examination, by proposing a set of scenarios where policymakers should consider using voluntary regulation. This includes instances where mandatory alternatives are unlikely to be adopted for political reasons, cannot be adequately enforced due to limited information, or would generate constitutional or legal risks, such as requiring the payment of compensation pursuant to the Takings Clause. This Article makes two additional contributions. It challenges the notion that voluntary initiatives must operate against a backdrop of mandatory regulation in order to be useful, and it highlights the central role that voluntary regulation should play in the context of legal change.

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Introduction

The word regulation is typically associated with traditional or mandatory regulation, that is, a set of requirements imposed on individuals or firms that are enforced through sanctions, and that affects areas as diverse as antitrust,

environmental protection, road safety, or telecommunications.[1] As Justice (then Professor) Breyer noted in the early 1980s, however, "many agencies . . . must rely upon voluntary compliance" in order to achieve their goals.[2] Since then, policymakers—most notably, legislatures and agencies—have adopted numerous initiatives specifically aimed at addressing policy problems by relying on persuasion rather than on mandates.[3]

More recently, this approach to policymaking has become increasingly popular. In 2022, the Supreme Court ruled that Congress had not delegated the authority to the Environmental Protection Agency (EPA) to regulate greenhouse gas emissions from existing power plants using certain mandatory tools that the agency had included in the Obama-era Clean Power Plan in *West Virginia v. EPA*.[4] Six weeks after this decision, Congress passed and President Biden signed into law the Inflation Reduction Act (IRA), a statute crafted in anticipation of the constraints that the Court ultimately imposed on EPA's authority to regulate greenhouse gas emissions.[5] Interestingly, this legislation adopts a different strategy. Instead of relying on a mandatory approach, the IRA uses monetary incentives to promote the voluntary adoption of zero-carbon technologies in a wide range of sectors, including electricity, transportation, agriculture, and manufacturing.[6]

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1. W. Kip Viscusi, John M. Vernon & Joseph E. Harrington, Jr., Economics of Regulation and Antitrust 4 (2000); Peter J. May, *Regulation and Compliance Motivations: Examining Different Approaches*, 65 Pub. Admin. Rev. 31, 31–32 (2005); Anna Alberini & Kathleen Segerson, *Assessing Voluntary Programs to Improve Environmental Quality*, 22 Env't & Res. Econ. 157, 157 (2002); Jonathan C. Borck & Cary Coglianese, *Voluntary Environmental Programs: Assessing Their Effectiveness*, 34 Ann. Rev. Env't & Res. 305, 307 (2009); Robert Force, *Administrative Adjudication of Traffic Violations Confronts the Doctrine of Separation of Powers*, 49 Tul. L. Rev. 84, 114–15 (1975); Jim Chen, *Legal Process and Political Economy of Telecommunications Reform*, 97 Colum. L. Rev. 835, 837 (1997).
2. Stephen Breyer, Regulation and Its Reform 109 (1982).
3. For example, by 2011, the U.S. Environmental Protection Agency had developed over 60 voluntary programs. Christopher Carrigan & Cary Coglianese, *The Politics of Regulation: From New Institutionalism to New Governance*, 14 Ann. Rev. Pol. Sci. 107, 117 (2011). Other federal and state agencies operate voluntary programs. Cary Coglianese & Jennifer Nash, *Are Voluntary Environmental Programs the Answer?*, Regul. Rev. (Apr. 28, 2014), https://perma.cc/NC5F-L7R8.
4. West Virginia v. EPA, 597 U.S. 697, 711, 735 (2022).
5. Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818 (2022); David D. Doniger, *West Virginia, the Inflation Reduction Act, and the Future of Climate Policy*, 53 Env't L. Rep. 10553, 10553 (2023).
6. Brian Murray & Jonas Monast, *Carrots, Sticks, and the Evolution of U.S. Climate Policy*, 11 Tex. A&M L. Rev. 431, 450 (2024) (explaining that the IRA is an example of a policy that "reward[s] good behavior by the government paying parties to—or more often the case, sharing in the cost of—adopting cleaner technologies and practices"); Jonathan L. Ramseur, Cong. Rsch. Serv., R47262, Inflation Reduction Act of 2022 (IRA): Provisions Related to Climate Change 1, 3 (2023), https://perma.cc/ZVX5-VT8S.

This is far from an isolated example of the current interest in voluntary initiatives. The 2025 American Relief Act extended the current Farm Bill, which contemplates billions of dollars in spending.[7] This essentially means that the federal government will be able to continue using billions of dollars to implement voluntary conservation programs that seek to encourage farmers to retire land from production or adopt other measures to protect the environment and natural resources.[8] Voluntary approaches are also gaining traction in other areas where mandatory regulation would face important obstacles, including efforts to address the current water scarcity crisis. In July of 2023, a bipartisan group of senators introduced a bill of the Voluntary Groundwater Conservation Act in the Senate to create a groundwater conservation easement program within the United States Department of Agriculture.[9] This innovative mechanism, which is modeled after the more widely known land conservation easement, provides economic incentives for landowners to reduce groundwater use, as seen in Colorado's San Luis Valley, where one of the first groundwater conservation easements was adopted in 2022.[10]

As these examples illustrate, voluntary initiatives are a broad category of policy instruments—that is, types of mechanisms that policymakers can use to achieve a particular goal—that rely on persuasion rather than on mandates.[11] In other words, citizens and firms that are eligible to take part in a voluntary program are free to choose whether to participate or not.[12] Voluntary initiatives can be created and administered by government agencies, industry, or

7. Jim Monke, Cong. Rsch. Serv., IF12233, Farm Bill Primer: Budget Dynamics 1 (2024), https://perma.cc/LS8F-K8MM.

8. *See id.*; Renée Johnson & Jim Monke, Cong. Rsch. Serv., IF12047, Farm Bill Primer: Background and Status 1 (2024), https://perma.cc/TYQ2-FZXC; Marc Heller, *Committee OKs Farm Bill After Scrap Over Climate-Smart Ag*, E&E News (May 24, 2024), https://perma.cc/3878-K84C (noting that the bill would increase funding for conservation programs); Farm, Food, and National Security Act of 2024 (Farm Bill), H.R. 8467, 118th Cong. (2024); *see infra* Part III.A (explaining the voluntary nature of these programs).

9. Voluntary Groundwater Conservation Act of 2023, S. 2250, 118th Cong. (2023); *Sen. Michael Bennet, Bennet, Moran, Heinrich Introduce Bill to Create New Tool for Farmers and Ranchers to Combat Drought*, Michael Bennet: Press Releases (July 11, 2023), https://perma.cc/T5JA-HLLX.

10. Katherine Wright, Travis Brammer & Shawn Regan, Prop. & Env't Rsch. Ctr., Groundwater Conservation Easements: Evaluating an Innovative New Tool for Aquifer Sustainability 7–8 (2024).

11. Policy Instruments in Environmental Law 1–2 (Kenneth R. Richards & Josephine van Zeben eds., 2020); James Salzman, *Teaching Policy Instrument Choice in Environmental Law: The Five P's*, 23 Duke Env't L. & Pol'y F. 363, 373–74 (2013) (explaining that these initiatives are "used to 'nudge behavior'").

12. Matthew Potoski & Aseem Prakash, *Green Clubs: Collective Action and Voluntary Environmental Programs*, 16 Ann. Rev. Pol. Sci. 399, 408 (2013) (addressing the recruitment issue—that is, the need to "'persuade' firms to participate" in these programs).

non-profit organizations.[13] This Article focuses on the former, which I will refer to as voluntary regulation.[14] Because participation is not mandated, voluntary regulation offers incentives—monetary and otherwise—to encourage enrollment in these programs.[15]

Despite its pervasiveness, voluntary regulation remains largely undertheorized.[16] A large portion of the academic literature has focused on describing or assessing the effectiveness of specific programs rather than on developing a robust theory of voluntary regulation.[17] Some scholars, however, have taken a broader approach in their scholarship, which has enabled them to examine more general and theoretical aspects of this policy instrument.[18] Surprisingly, there is a critical question that has evaded in-depth discussion in the literature: Under

13. Russell W. Mills, Collaborating with Industry to Ensure Regulatory Oversight: The Use of Voluntary Safety Reporting Programs by the Federal Aviation Administration 6 (2011) (Ph.D. dissertation, Kent State University), https://perma.cc/U36H-3CVB; Peter Grabosky, *Meta-regulation*, *in* Regulatory Theory: Foundations and Applications 149, 152–53 (Peter Drahos ed., 2017) (explaining the difference between voluntary programs where the government is a "passive observer" and those where the government actually develops or authorizes the program); Walter G. Johnson, Comment, *Governance Tools for the Second Quantum Revolution*, 59 Jurimetrics J. 487, 511, 514–16 (2019); Cary Coglianese, *Environmental Soft Law as a Governance Strategy*, 61 Jurimetrics J. 19, 19 (2020) (providing additional examples of major non-governmental voluntary programs).

14. *See infra* note 103 and accompanying text. A note on terminology is in order. While, as explained below, the term "voluntary regulation" is narrower than the notion of "voluntary approaches," "voluntary programs," and "voluntary initiatives," the latter three categories include the former. *See infra* Part II.B. Therefore, to avoid repetition, this Article will use these three categories as synonymous with "voluntary regulation" when it is correct analytically to do so.

15. *See infra* notes 105–109 and accompanying text.

16. Derek Kauneckis & Abigail M. York, *An Empirical Evaluation of Private Landowner Participation in Voluntary Forest Conservation Programs*, 44 Env't Mgmt. 468–84 (2009) (noting that "[v]oluntary programs are the primary policy instrument for preservation of critical habitat on private land, nonpoint source water pollution and are increasingly important in the conservation of open space"); Scott Hassell et al., An Assessment of the U.S. Environmental Protection Agency's National Environmental Performance Track Program 9 (2010) ("[Voluntary] programs were not developed on as strong a base of social-science theory as some other environmental policy tools."); Cary Coglianese & Jennifer Nash, *Motivating Without Mandates: The Role of Voluntary Programs in Environmental Governance*, *in* Decision Making in Environmental Law 247 (Lee Paddock et al. eds., 2016) (highlighting that certain types of voluntary programs "have received less attention by social scientists").

17. Peter DeLeon Jorge E. Rivera & Laurie Manderino, *Voluntary Environmental Programs: An Introduction*, *in* Voluntary Environmental Programs: A Policy Perspective 2 (Peter DeLeon & Jorge E. Rivera eds., 2010) (arguing that voluntary programs have "largely been studied on a piecemeal basis, relating the specific experience of a company here, a trade association there, with little attention to issues of underlying theories").

18. *See, e.g.*, DeLeon et al., *supra* note 17, at 8; Coglianese & Nash, *supra* note 16, at 237; Matthew Potoski & Aseem Prakash, *Voluntary Clubs: An Introduction*, *in* Voluntary Programs: A Club Theory Perspective 1, 2 (Matthew Potoski & Aseem Prakash eds., 2009).

what circumstances should policymakers consider adopting voluntary regulation to tackle a specific social problem?

This Article addresses this gap. To do so, it first examines a series of notable voluntary programs in various areas of regulation: private land conservation, water resources management, and hazardous substance pollution.[19] To make the conclusions as broad and generalizable as possible, the goal has been to select areas and programs that differ substantially in various respects. Consistently with this idea, the programs surveyed have different levels of funding, are administered by various levels of government, and address a wide array of policy issues.[20]

Based on this analysis, this Article proposes a set of principles to assist policymakers in deciding the circumstances under which voluntary regulation is a good candidate to address a particular policy problem. First, in situations where it is not politically viable to adopt and implement mandatory regulation—as is the case in areas such as agriculture, where the regulated community wields significant power over legislators—voluntary initiatives are preferable to a complete absence of regulation.[21] Second, in situations where implementing mandatory regulation is challenging from a practical standpoint, voluntary regulation can provide an alternative or a complementary way of more effectively addressing policy issues.[22] This can occur, for example, when the regulator has insufficient information to adequately enforce more traditional mandatory instruments such as command-and-control regulation and when obtaining that information would be too costly or burdensome.[23] Last, voluntary programs can be especially useful in situations where the type of mandatory regulation that would be necessary to address a specific policy issue would require the payment of compensation under the Takings Clause of the Constitution or when resorting to a voluntary approach would result in fewer challenges to regulations, thereby saving time and resources and ultimately leading to a speedier resolution of the underlying problem.[24]

This Article makes two additional contributions to the literature with the purpose of promoting the use of voluntary regulation to its full potential. First, while, as many scholars point out, voluntary regulation may be more effective when working in tandem with—or with a threat of future adoption of—mandatory regulation, treating this as a necessary requirement or

19. *See infra* Part III.

20. For example, the private land conservation programs that Part III.A analyzes have a significant budget and are administered by federal agencies, while water banks require a significantly lower commitment of resources and are typically implemented at the state level. *See supra* note 8 and accompanying text. *See infra* notes 146, 204, 208 and accompanying text.

21. *See infra* Part IV.A.

22. *See id.*

23. *See infra* Part IV.B.

24. *See infra* Part IV.C.

expectation can undermine the benefits of voluntary approaches.[25] In fact, in some cases, the threat of future mandatory regulation can be counterproductive and decrease enrollment in voluntary programs that are currently available.[26] Moreover, voluntary initiatives are typically most useful where no other form of regulation is feasible.[27] Second, voluntary regulation can be especially useful in the context of legal transitions, that is, changes to statutes or regulations.[28] Existing activities are often excluded from the scope of new mandatory rules either completely (as with legacy clauses, also referred to as grandfathering) or during a certain period of time (in what is known as delayed implementation).[29] In these instances, voluntary regulation offers an opportunity to reach some of the activities that have escaped the application of the new mandatory rule.[30]

This Article proceeds in five parts. Part I offers an overview of the regulation and instrument choice landscape. Part II introduces the notion of voluntary regulation, explains how it fits within the broader policy instrument framework, and discusses some of its most common criticisms. Part III examines how voluntary regulation operates in three different areas: private land conservation, water resources management, and hazardous substance pollution. For each area, the analysis includes a specific category of voluntary regulation, its goals, the policy issues it intends to address, its structure, an example of a notable program showing how it works in practice, and the most common criticisms that these voluntary initiatives have received. Based on this analysis, Part IV identifies three categories of scenarios in which policymakers should consider using voluntary regulation, namely those where mandatory regulation is unlikely to be adopted due to a lack of political will, is difficult to enforce, or may trigger the obligation to pay compensation under the Takings Clause of the Constitution. Finally, Part V provides additional suggestions to maximize the benefits of voluntary regulation.

I. Regulation and Instrument Choice

A. Regulation

The term "regulation" is elusive because it is used to identify a variety of concepts.[31] In the legal context, regulation can be equated with "law," that is, a series of rules adopted by a government entity that guides the behavior of

25. *See infra* Part V.A.
26. *See infra* Part V.A.2.
27. *See infra* Part V.A.1.
28. *See infra* Part V.B.
29. *See id.*
30. *See id.*
31. David Levi-Faur, *Regulation & Regulatory Governance, in* Handbook on the Politics of Regulation 3 (David Levi-Faur ed., 2011).

individuals or corporations.[32] Certain definitions focus more on the effects regulations have on the regulated, as when the emphasis is placed on the fact that those subject to these rules are being compelled to take actions that they would typically prefer to avoid, for example, due to their cost.[33] In this vein, Professor Stephen Weatherill defines regulation as "practices that serve to constrain or influence the behavio[]r of individuals or firms."[34] Other definitions highlight the positive effect the regulator is hoping to achieve. For example, Professor Julia Black's oft-cited definition of regulation touches on the policymaker's ultimate goal to "address a collective problem or attain an identified end or ends."[35] Consistent with this idea, Professors Cary Coglianese and Robert Kagan noted that regulation is "aimed at preventing misconduct by businesses and other organizations."[36]

These definitions, however, do not provide a clear response to the important question of why regulation is necessary to begin with. Part of the answer lies in the existence of market failures.[37] One type of market failure arises when firms have a level of control over a market—for instance, in the case of a monopoly—that allows them to set the prices of certain goods in a manner that leads to a reduction in the quality and diversity of products.[38] Antitrust regulation aims to prevent these types of practices.[39] Moreover, consumer regulation mandating information disclosure is often justified based on information asymmetry, a different form of market failure.[40] For example, lenders tend to have significantly more information than borrowers about the different products that are available as well as about the rates applicable to each product based on the borrowers' qualifications.[41] Yet another justification for regulation is the need to address the negative externalities associated with business activity.[42]

32. Cary Coglianese, *Evaluating Regulatory Performance*, 8 U. Penn. J. L. & Pub. Affs. 47, 51 (2023); Stephen Weatherill, *The Challenge of Better Regulation*, *in* Better Regulation 1 (Stephen Weatherill ed., 2007).
33. Michael Greenstone, *Toward a Culture of Persistent Regulatory Experimentation and Evaluation*, *in* New Perspectives on Regulation 111 (David Moss & John Cisternino eds., 2009).
34. Weatherill, *supra* note 32, at 1.
35. Julia Black, *Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes*, 2 Regul. & Governance 137, 139 (2008).
36. Cary Coglianese & Robert Kagan, Regulation and Regulatory Processes xi (2007).
37. *Id.* at xii.
38. Viscusi, Vernon & Harrington, *supra* note 1, at 4; *Market Failure: What It Is in Economics, Common Types, and Causes*, Investopedia (Feb. 5, 2024), https://perma.cc/FX8K-8DPR.
39. Viscusi, Vernon & Harrington, *supra* note 1, at 3.
40. Joseph Stiglitz, *Regulation and Failure*, *in* New Perspectives on Regulation 11–12 (David Moss & John Cisternino eds., 2009).
41. Michael S. Barr, Sendhil Mullainathan & Eldar Shafir, *The Case for Behaviorally Informed Regulation*, *in* New Perspectives on Regulation 37–38 (David Moss & John Cisternino eds., 2009).
42. Coglianese & Kagan, *supra* note 36, at xii.

Environmental regulation attempts to tackle a classic instance of negative externalities: those caused by the release of pollution into the environment.[43] In the absence of regulation, industrial operators are able to discard an undesirable byproduct—pollution—while imposing its costs on third parties, that is, the population that will have to suffer the pernicious consequences of living in an area with degraded environmental quality.[44] To be sure, these are not the only justifications for regulation. The general literature on this topic lists a number of additional situations where regulation would be desirable, including the need to prevent moral hazard and to promote distributional justice.[45]

Although this discussion would seem to suggest that policymakers will adopt regulation whenever one of these justifications for it is present, the theoretical models and empirical evidence paint a far more complex picture.[46] Professor Stigler famously claimed that "regulation is acquired by the industry and is designed and operated primarily for its benefit."[47] This theory, which was later viewed as part of the broader notion of *regulatory capture*,[48] provides different explanations for why firms may actually seek regulation, including the fact that some forms of regulation can actually lead to the generation of rents—by resulting in reduced production which will, in turn, increase prices—and can also create barriers to the entry of new firms by limiting future competition.[49] Barriers to entry are particularly common when regulators adopt so-called vintage-differentiated regulation, which imposes more stringent standards—and, thus, higher costs—on new entrants.[50] This type of mechanism was at play when John Deere advocated, in 2000, for the adoption of more stringent emissions standards for certain types of landscape appliances.[51] In that

43. *See, e.g.*, Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 Yale L. & Pol'y Rev. 23, 29 (1996); Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. Pa. L. Rev. 2341, 2374–75 (1996).

44. Nathaniel O. Keohane & Sheila M. Olmstead, Markets and the Environment 80 (2016); E. Donald Elliott & Daniel C. Esty, *The End Environmental Externalities Manifesto: A Rights-Based Foundation for Environmental Law*, 29 N.Y.U. Env't L.J. 505, 508 (2021).

45. *See, e.g.*, Robert Baldwin & Martin Cave, Understanding Regulation: Theory, Strategy, and Practice 13–14 (1999).

46. Coglianese & Kagan, *supra* note 36, at xii ("[G]overnments do not automatically enact new regulations in response to public problems.").

47. George J. Stigler, *The Theory of Economic Regulation*, 1 Bell J. Econ. & Mgmt. Sci. 3, 3 (1971).

48. Barry M. Mitnick, *Capturing "Capture": Definition and Mechanisms*, *in* Handbook on the Politics of Regulation 34 (David Levi-Faur ed., 2011); Martin Lodge, *Regulatory Capture Recaptured*, 74 Pub. Admin. Rev. 539, 539 (2014).

49. Nathaniel O. Keohane, Richard L. Revesz & Robert N. Stavins, *The Positive Political Economy of Instrument Choice in Environmental Policy*, *in* Environmental and Public Economics 105 (Arvind Panagariya, Paul R. Portney & Robert M. Schwab eds., 1999).

50. Robert N. Stavins, *Vintage-Differentiated Environmental Regulation*, 25 Stan. Env't L.J. 29, 32 (2006); Carrigan & Coglianese, *supra* note 3, at 109.

51. Bruce Yandle, *Bootleggers and Baptists in the Theory of Regulation*, *in* Handbook on the Politics of Regulation 31 (David Levi-Faur ed., 2011).

case, John Deere held a patent on a technology that would allow its products to meet the new standard.[52] Its competitors, however, were not in a position to easily do so.[53]

This does not mean, however, that regulation is always desirable for those who will be subject to it. As Professor Christopher Schroeder has noted, broad-based groups such as environmental organizations have also succeeded in incentivizing policymakers to adopt stringent regulation, as evidenced by Congress's enactment of a wide range of environmental statutes in the second half of the twentieth century.[54]

B. The Policy Instrument Landscape

Policymakers—that is, primarily legislatures and administrative agencies—are constantly grappling with the question: What is the best way to address a problem that has not yet been tackled?[55] For example, as of 2021, the regulation of pollutants commonly referred to as PFAS was patently insufficient,[56] as evidenced by the high concentrations of these substances detected in the general population.[57] As a result, EPA had to decide which strategies to employ in dealing with this problem.[58]

Policy instruments are frequently described as tools that the government uses to achieve a mandated goal.[59] There are at least two general categories of policy instruments: (1) traditional regulation (i.e., command-and-control) and (2) market-based instruments.[60]

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52. *See id*.
53. *See id*.
54. Christopher H. Schroeder, *Public Choice in Environmental Policy: A Review of the Literature*, *in* Public Choice and Public Law 459–60 (Daniel A. Farber & Anne Joseph O'Connell eds., 2010).
55. *See, e.g.*, Helen Leanne Serassio, *Legislative and Executive Efforts to Modernize NEPA and Create Efficiencies in Environmental Review*, 45 Tex. Env't L.J. 317, 319–20 (2015) ("Since the first Congressional oversight hearing on NEPA in 1998, Congress has been actively working to address concerns that NEPA review hinders efficient decision-making by proposing amendments or exemptions to the NEPA process.").
56. *See* Samuel Boden, *Presumptive Innocence v. the Precautionary Principle: The Story of PFAS Regulation in the United States*, 44 Environs: Env't L. & Pol'y J. 37, 41–43 (2020).
57. *Per- and Polyfluoroalkyl Substances (PFAS): State Legislation and Federal Action*, NCSL (Mar. 23, 2023), https://perma.cc/Q3B9-VMEN (95% of people tested since 1999 were found to have PFAS in their bodies).
58. EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 9 (2021), https://perma.cc/68ZR-392B (contemplating, among other tools, regulation and voluntary programs).
59. Richards & van Zeben, *supra* note 11, at 1–2.
60. *See, e.g.*, David M. Driesen, *Instrument Choice*, *in* The Oxford Handbook of International Environmental Law 310 (Lavanya Rajamani & Jacqueline Peel eds., 2021); Richard B. Stewart, *Instrument Choice*, *in* The Oxford Handbook of International Environmental Law 149 (Daniel Bodansky, Jutta Brunnée & Ellen Hey eds., 2007) (using the term

The first, which this Article will refer to as "traditional regulation,"[61] mandates or prohibits specific conduct.[62] This includes technology standards, which require the use of a particular type of technology or process, and performance-based standards, which mandate the achievement of particular results.[63] For example, a requirement that an industrial operator install isolators to reduce the vibration that certain machinery generates would be consistent with the notion of a technology standard, while a mandate to ensure that the total noise emitted by a facility remain below a certain level would be a performance standard.[64]

Policy instruments in the second category, that is, market-based or incentive-based instruments,[65] attempt to influence behavior by generating market signals.[66] Two of the most common types of market-based instruments are taxes—including those imposed for each unit of pollution released to the environment—and marketable permits—for instance, tradable allowances employed as part of a cap-and-trade program to reduce acid rain or greenhouse gas emissions.[67] Deposit-refund systems, which combine a tax (deposit) and a subsidy (refund)—such as those used to incentivize the adequate disposal of beverage bottles or car batteries—are often also regarded as market-based approaches.[68] Whether subsidies to reduce harmful activities or engage in beneficial behavior should be included in this category is debated.[69]

"economic incentives" instead of "market-based incentives"); Kenneth R. Richards, *Framing Environmental Policy Instrument Choice*, 10 Duke Env't L. & Pol'y F. 221, 231 (2000).

61. Scholars tend to use the terms "traditional regulation," "traditional standards," and "command-and-control regulation" interchangeably. *See* Driesen, *supra* note 60, at 102–03 (where the author uses all three phrases and explains that "[m]uch of the literature refers to traditional standards as 'command-and-control' regulation").
62. Stewart, *supra* note 60, at 150.
63. Levi-Faur, *supra* note 31, at 10.
64. *See* Luis Inaraja Vera, *How Science Can Improve Regulation: Noise Control in Urban Areas*, 53 Tulsa L. Rev. 33, 46 (2017) (providing a similar example illustrating this distinction).
65. Schroeder, *supra* note 54, at 474 (treating the expressions "market-based" and "incentive-based" as synonymous).
66. Simon A. Mason & Adrian Muller, *Analyzing Economic Market Interactions as Conflicts: New Concepts to Assess Market-Based Policy Instruments*, 61 Ecological Econ. 81, 81 (2007). While this nomenclature is widely used in the literature, Professor Daniel Cole has noted that "it is a misnomer to refer to certain regulatory approaches as 'market-based' or 'incentive-based,' implying that others are not. All regulatory approaches are designed to affect market behavior by creating incentives (of one kind or another) to reduce pollution levels." Daniel H. Cole, *Environmental Instrument Choice in a Second-Best World: A Comment on Professor Richards*, 10 Duke Env't L. & Pol'y F. 287, 289 (2000).
67. Salzman, *supra* note 11, at 370–71; Keohane, Revesz & Stavins, *supra* note 49, at 313–17.
68. Margaret Walls, *Deposit-Refund Systems in Practice and Theory* 1 (Res. for the Future, Working Paper No. 11-47, 2011); Richard B. Stewart, *Models for Environmental Regulation: Central Planning Versus Market-Based Approaches*, 19 B.C. Env't Affs. L. Rev. 547, 553 (1992); Lawrence H. Goulder & Ian W. H. Parry, *Instrument Choice in Environmental Policy*, 2 Rev. Env't Econ. & Pol'y, 152, 160 (2008) (describing it as a two-part regulatory instrument).
69. *Compare* Driesen, *supra* note 60, at 106 (including subsidies within the market-based instrument category), *with* Salzman, *supra* note 11, at 364, 372 (treating "payments," i.e., subsidies, as a distinct type of policy instrument).

While the discussion of policy instruments in the preceding paragraphs captures those that are more prevalent and widely studied, the list is considerably longer. Other examples include the creation and enforcement of property rights over a particular resource in order to incentivize its rational use[70] as well as approaches that rely on providing information to consumers or policymakers about the negative impacts of a product or a government action.[71] It is also worth noting that, while the term "program" is widely used in this context to describe specific government initiatives aimed at tackling a particular issue, the notions of "program" and "policy tool" do not perfectly overlap, as it is not uncommon for a government program to include a variety of policy tools.[72] Moreover, multiple programs addressing different issues or focusing on different geographical locations can be based on the same policy tool.

Instrument choice, one of the most important areas of law and policy, focuses on how policymakers should choose the right policy instrument in each instance requiring regulatory intervention.[73] Instrument choice scholars have suggested a variety of options for how to make this determination. Professor Richard Stewart has argued that aspects such as efficacy, efficiency, and distributional equity should be the key guiding principles.[74] Professor Wiener has highlighted features such as the ease with which compliance is achieved, decision-making efficiency, fairness, and morality.[75] Moreover, as Professor Kenneth Richards has explained, political and legal constraints—e.g., the regulatory takings doctrine—should also be considered in the process of choosing the appropriate policy instrument in a given context.[76]

However, as noted in the literature, some of the choices that policymakers make are at odds with the recommendations from policy analysts and economists.[77] Moreover, the pervasiveness of command-and-control or

70. Katrina M. Wyman, *Second Generation Property Rights Issues*, 59 Nat. Res. J. 215, 215–216 (2019); Salzman, *supra* note 11, at 366.

71. Michael T. Hatch, *Assessing Environmental Policy Instruments*, *in* Environmental Policymaking: Assessing the Use of Alternative Policy Instruments 7 (Michael T. Hatch ed., 2005); Stewart, *supra* note 60, at 152–53.

72. *See* Richards & van Zeben, *supra* note 11, at 2 (noting that other authors have used broader definitions of "policy tool" in order to differentiate them from government programs). *See generally* William Boyd, *The Poverty of Theory: Public Problems, Instrument Choice, and the Climate Emergency*, 46 Colum. J. Env't L. 399–412 (2021) (emphasizing this difference by noting that policy instruments need to then be translated into government programs). As explained earlier, deposit-and-refund systems are a combination of two different policy instruments—that is, a tax and a subsidy. *See supra* note 68 and accompanying text.

73. Sarah E. Light & Eric W. Orts, *Parallels in Public and Private Environmental Governance*, 5 Mich. J. Env't & Admin. L. 1 (2015).

74. Stewart, *supra* note 60, at 148.

75. Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 Yale L.J. 677, 771–80 (1999).

76. Richards, *supra* note 60, at 229.

77. *Id.* at 223.

traditional regulation is hard to explain in light of the fact that there is no reason to believe that this type of instrument is always—or even more often than not—better than all other policy tools.[78]

What, then, explains this inconsistency? The literature on the influence of politics on instrument choice provides some answers.[79] The policymaking process is affected by a number of factors including the preferences of interest groups and bureaucrats.[80] Advocacy groups, for example, often advocate for the use of traditional regulation and tend to distrust market-based tools.[81] In the environmental context, environmental groups often object to the use of taxes as tradable allowances, claiming that they are ethically objectionable as they are "licenses to pollute."[82] Interestingly, industry groups also tend to advocate for traditional regulation, in part due to the fact that it has typically imposed higher costs on new sources, therefore limiting competition from new entrants.[83] Politicians are also predisposed to favor traditional regulation because it leads to more predictable outcomes while making it harder—compared to market-based approaches—to draw a connection between this form of regulation and the price increases it can cause on various consumer products.[84]

II. Persuasion and Mandates

Scholars view command-and-control regulation and market-based instruments as part of an early stage in the development of regulation.[85] The realization

78. Yandle, *supra* note 51, at 28; *see* Goulder & Parry, *supra* note 68, at 153 (explaining that "[n]o single instrument is clearly superior along all the dimensions relevant to policy choice").

79. Robert W. Hahn & Albert M. McGartland, *The Political Economy of Instrument Choice: An Examination of the U.S. Role in Implementing the Montreal Protocol*, 83 Nw. U. L. Rev. 592, 610 (1989) (noting the importance of politics in the choice of specific policy instruments).

80. Nayara F. Macedo de Medeiros Albrecht, *Bureaucrats, Interest Groups and Policymaking: A Comprehensive Overview from the Turn of the Century*, 10 Humans. & Soc. Sci. Commc'ns 1, 2 (2023).

81. Jonathan B. Wiener & Barak D. Richman, *Mechanism Choice*, *in* Public Choice and Public Law 377 (Daniel A. Farber & Anne Joseph O'Connell eds., 2010).

82. Schroeder, *supra* note 54, at 476.

83. *See id.* at 477; Keohane, Revesz & Stavins, *supra* note 49, at 105. There are, however, exceptions to this general principle. *See* Hahn & Albert M. McGartland, *supra* note 79, at 605–06 (giving an example in which industry groups were supporting the adoption of marketable permits).

84. Keohane, Revesz & Stavins, *supra* note 49, at 110–11.

85. In the environmental regulation context, for example, they are typically viewed as first- or second-generation tools, as opposed to the more recent *third generation* or *new generation* of environmental law. Richard J. Lazarus, *The Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law's First Three Decades in the United States*, 20 Va. Env't L.J. 75, 77–78, 87 (2001) (explaining how first-generation environmental laws "imposed a series of specific statutory commands on polluting activities" and "generally adhered to a 'command and control' regime"); Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 Cap. U. L. Rev. 21, 21 (2001) (noting that market-based approaches are "second generation" strategies).

that these policy instruments were not addressing certain policy challenges effectively, in part due to their rigidity,[86] gave rise to the emergence of a number of new tools and approaches that are often lumped together under the general descriptor of *New Governance*.[87] A common feature of some of these instruments is the replacement of traditional regulation with what is often referred to as persuasion, non-coerciveness, and "soft law."[88] This Part situates voluntary regulation, the policy tool on which this Article focuses, within the broader landscape of New Governance instruments that rely on persuasion rather than mandates.[89]

A. The Big Picture: Mandatory vs. Voluntary Approaches

A voluntary approach is a type of policy tool reliant on persuasion[90] that can be broadly defined as an initiative, public or private, attempting to influence behavior in a non-coercive manner.[91] These voluntary initiatives "are perhaps most readily characterized by what they are not: mandatory regulations,"[92] that is, instruments whereby government agencies have "the ability to impose

86. Whether these tools are as rigid as some scholars have claimed, however, is actually contested. Dave Owen, *The Negotiable Implementation of Environmental Law*, 75 Stan. L. Rev. 137, 141 (2023).

87. Carrigan & Coglianese, *supra* note 3, at 114–16 (explaining that command-and-control regulation and market-based instruments are too rigid, whereas voluntary regulation is more flexible); Matthew J. Kotchen, *Voluntary- and Information-Based Approaches to Environmental Management: A Public Economics Perspective*, 7 Rev. Env't Econ. & Pol'y 276, 277 (2013); Derek Kauneckis & Abigail M. York, *An Empirical Evaluation of Private Landowner Participation in Voluntary Forest Conservation Programs*, 44 Env't Mgmt. 468, 468–84 (2009); Bradley C. Karkkainen, *New Governance in Legal Thought and in the World: Some Splitting as Antidote to Overzealous Lumping*, 89 Minn. L. Rev. 471, 473 (2004).

88. Lester M. Salamon, *The New Governance and the Tools of Public Action: An Introduction, in* The Tools of Government: A Guide to the New Governance 1, 15 (Salamon ed., 2002); Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 Minn. L. Rev. 342, 343 (2004).

89. Carrigan & Coglianese, *supra* note 3, at 116 ("Another set of new governance mechanisms—voluntary programs—are even further removed from traditional forms of regulation. . . ."); Sarah E. Light, *The Law of the Corporation as Environmental Law*, 71 Stan. L. Rev. 137, 153–54 (2019) ("Other scholarship in this vein has sought to move environmental governance inside the firm, focusing on . . . voluntary programs like the EPA's Performance Track.").

90. Salzman, *supra* note 11, at 374 (including within the notion of persuasion information-based approaches also those used to "nudge" behavior, such as programs that aim at improving energy efficiency "by providing smiley-face encouragement on utility bills for better conservation than [their] neighbors").

91. Borck & Coglianese, *supra* note 1, at 307; Dinah A. Koehler, *The Effectiveness of Voluntary Environmental Programs—A Policy at a Crossroads?*, 35 Pol'y Stud. J. 689, 691 (2007); Coglianese & Nash, *supra* note 16, at 237 (noting that voluntary programs pursue the common goal of "improv[ing] their environmental performance through incentives rather than regulatory threats").

92. Borck & Coglianese, *supra* note 1, at 307.

unwanted costs on" the regulated community.[93] In other words, with voluntary approaches, individuals and firms can decide not to participate in the program at all, which means that they will not be subject to penalties for non-compliance.[94]

It is critical to highlight that the term voluntary approaches is not synonymous with another similarly sounding phrase that is often used in the instrument choice literature, that is, incentive-based approaches. While environmental economists have traditionally differentiated between command-and-control and incentive-based policy tools (such as certain types of market-based regulatory instruments), the distinction that is relevant here is that between voluntary and mandatory approaches.[95] There is little doubt that command-and-control is a form of mandatory regulation.[96] What is worth emphasizing, however, is that certain market-based approaches such as pollution taxes or tradable permits (e.g., cap-and-trade), although often referred to as *incentive-based*, are also a form of mandatory regulation.[97] A marketable-permit system, for example, where the regulated community is required to have enough permits or allowances to cover their emissions, is mandatory because participation is not optional and penalties can be imposed if the pollution released exceeds the number of allowances held by the firm.[98]

It must also be noted, however, that even voluntary initiatives include mandatory components. Once firms have made the decision to join the program and

93. Alberini & Segerson, *supra* note 1, at 157.

94. *See id.*; Borck & Coglianese, *supra* note 1, at 307. If there is a mandatory initiative in the background, however, those not willing to participate in it may then be subject to fines for not complying with certain standards. This, of course, results from the mandatory regulation, not the voluntary approach. *See infra* notes 237–239 and accompanying text. Similarly, external market pressures could make a program that is technically voluntary (such as energy efficiency labeling program) become *de facto* mandatory if those who choose not to enroll, and therefore will not be able to display such labels on their products, will be unable to sell them.

95. Alberini & Segerson, *supra* note 1, at 157.

96. Borck & Coglianese, *supra* note 1, at 307 (using the environmental command-and-control regulation enacted in the 1970s and 1980s as an example of mandatory regulation); J. Alberto Aragón-Correa, Alfred A. Marcus & David Vogel, *The Effects of Mandatory and Voluntary Regulatory Pressures on Firms' Environmental Strategies: A Review and Recommendation for Future Research*, 14 Acad. Mgmt. Annals 339, 341–42 (2020) (same).

97. *See* Schroeder, *supra* note 54, at 476; Borck & Coglianese, *supra* note 1, at 307; Wiener & Richman, *supra* note 81, at 370 (treating taxes and tradable allowance approaches as incentives-based).

98. Borck & Coglianese, *supra* note 1, at 307. One could, of course, make the argument that these programs are voluntary because there is always the option to not comply and pay the fines. Salamon, *supra* note 88, at 25. The possibility that these fines will be imposed, however, is what distinguishes voluntary and mandatory approaches. Alberini & Segerson, *supra* note 1, at 157. The alternative view does not have an obvious limiting principle and would lead to conclusions that are hard to justify, such as that command-and-control regulation is also voluntary. To be sure, if a marketable permit program provides that a particular sector is free to choose whether to participate or not, the instrument would be voluntary, rather than mandatory, with respect to that sector. Washington State's Cap and Invest program, for example, allows certain operators who are not obligated to take part in the program to opt in voluntarily. Wash. Admin. Code § 173-446-050(2). The same is true for purely voluntary markets, such as certain types of water banks. *See infra* Part III.B.

receive some or all of the benefits associated with it, they are bound to the obligations and responsibilities that the program imposes on its participants. This does not, however, change the fact that these initiatives are voluntary, as citizens and firms are under no obligation to enroll in the program to begin with.

B. Voluntary Regulation as a Category of Voluntary Initiatives

This Article focuses on an important subset of voluntary approaches, which I refer to as *voluntary regulation*, that is, government regulation that incentivizes firms to engage in socially beneficial behavior or abstain from undesirable conduct. In order to clearly indicate where *voluntary regulation* fits within the larger picture, this section will canvas a basic taxonomy of voluntary approaches.

There is one main distinction to consider. Some voluntary approaches reserve a strong role for government agencies, while others do not.[99] Programs where a government agency provides economic incentives to private parties to either not farm their land or to remediate contamination are examples of government-sponsored voluntary approaches.[100] Non-governmental programs include those where the initiative is run by industry itself—e.g., codes of conduct relating to the risks of emerging technologies—or by a third party, such as a non-profit organization—e.g., the International Organization for Standardization's nanotechnology standards.[101] The following table suggests a taxonomy of regulation to illustrate these distinctions based on the mandatory or voluntary nature of the instrument, and which entity creates the standards that will be followed by firms.

Table 1: Mandatory vs. Voluntary Regulation.

	Government	Industry/Sector	Non-Profit
Voluntary Approaches	Voluntary Regulation	Voluntary Standards of Conduct	Voluntary Standards of Conduct
Mandatory Approaches	Mandatory Regulation	N/A[102]	N/A

99. Mills, *supra* note 13, at 6; Grabosky, *supra* note 13, at 153 (explaining the difference between voluntary programs where the government is a "passive observer" and those where the government develops or authorizes the program).

100. *See supra* note 97 and accompanying text; *see infra* Parts III.A, III.C.

101. Johnson, *supra* note 13, at 511, 514–16; Cary Coglianese, *supra* note 13, at 19 (providing additional examples of major non-governmental voluntary programs).

102. While industry can undoubtedly exert pressure on specific companies to follow certain practices, these rules are not truly mandatory as, absent a prior contractual agreement, industry organizations do not have the ability to seek their enforcement. Some scholars have suggested a different approach that distinguishes between regulation, mandates, incentives, and pressures. *See* Cary Coglianese & Jennifer Nash, *Management-Based Strategies:*

The remainder of this paper will focus on the first category: *voluntary regulation*. As noted, these are voluntary programs administered by a government agency.[103] As explained earlier, for the purposes of this Article, I define *voluntary regulation* as government regulation that incentivizes firms to adopt behaviors that are socially desirable and avoid those that are problematic.[104] Both the *voluntary* and the *regulation* components must be present. The first, its voluntary nature, as addressed above, results from the fact that this form of regulation relies on persuasion, which sets it apart from more traditional instruments that impose mandates, such as command-and-control or many types of market-based tools.[105] As for the second component, *regulation*, this requires that the government-sponsored initiatives that this Article analyzes be structured as programs that include eligibility requirements, confer certain benefits on participants, and whose administering government agency—whether it be federal, state, or local—oversees the activities of its enrollees. Consistent with this idea, a government initiative allowing farmers to opt into a program that will compensate them if they follow certain practices aimed at reducing water pollution fits this narrow definition of voluntary regulation. On the other hand, a free-standing tax credit or a subsidy that is not part of a broader program overseen by a regulatory agency—other than local, state, or federal taxation agencies—falls outside the scope of this definition. In sum, voluntary regulation consists of programs that (i) are voluntary, (ii) are directly administered by a government entity, (iii) have eligibility requirements, and (iv) confer specific benefits on their participants.

A note on terminology is in order. As explained earlier, to avoid repetition, this Article will use the terms "voluntary approaches," "voluntary programs," and "voluntary initiatives" synonymously with "voluntary regulation" when it is analytically correct to do so (i.e., when referring to the narrower category of

An Emerging Approach to Environmental Protection, *in* Leveraging the Private Sector: Management-Based Strategies for Improving Environmental Performance 14 (Cary Coglianese & Jennifer Nash eds., 2006). Another scholar has distinguished between mandates, prohibitions, safe harbors, incentives, and disincentives. *See* Light, *supra* note 89, at 164.

103. *See supra* note 14. Others have adopted this or similar terms to refer to this category of voluntary programs. *See, e.g.*, Carrigan & Coglianese, *supra* note 3, at 116 ("voluntary regulation"); Johnson, *supra* note 13, at 518 ("voluntary regulatory programs").

104. Potoski & Prakash, *supra* note 18, at 1–2.

105. Kevin A. Fletcher, Motivations, Incentives, & Barriers for Environmental Leadership by Small-to-Medium-Sized Enterprises: A Resource-Based View of "Beyond Compliance" Voluntary Environmental Actions by Golf Courses, Ski Areas, & Marinas 39 (2006) ("Environmental policy in the United States has historically relied upon a command-and-control approach generally involving mandatory regulations as the preferred policy instrument for promoting environmental protection."); Borck & Coglianese, *supra* note 1, at 307; J. Alberto Aragón-Correa et al., *The Effects of Mandatory and Voluntary Regulatory Pressures on Firms' Environmental Strategies: A Review and Recommendation for Future Research*, 14 Acad. Mgmt. Annals 339, 341 (2020) (highlighting the dichotomy between mandatory and voluntary regulation); May, *supra* note 1 (same).

voluntary regulation). In other words, because I focus on voluntary regulation, the narrowest of these categories, all the examples I will be discussing can be accurately referenced by using any of these four phrases.

Policymakers can offer a wide range of benefits to encourage private parties to participate in voluntary programs, including monetary and non-monetary incentives.[106] Monetary incentives are very common in this context and include grants, tax credits, and zero-interest loans.[107] Non-monetary incentives—which often still confer an *indirect* economic advantage—can adopt a wide variety of forms. Participation in certain programs, for example, can improve the firm's reputation, such as when enrollees are authorized to use a particular label that can be associated with more environmentally friendly practices.[108] This may, in turn, lead to an increase in the number of products sold, improve the ability to recruit employees, or help attract investors.[109] Another common form of non-monetary incentives is technical assistance. For example, as discussed below, some federal conservation programs provide technical assistance to farmers who are interested in adopting conservation practices on their lands.[110]

In addition, the agency can confer regulatory advantages for those participating in voluntary programs. Individual firms may be subject to a lower level of enforcement efforts either through a reduced number of inspections or by enjoying greater leniency from the enforcement agency if a violation is nonetheless detected.[111] More generally, firms in a particular sector may decide to join a voluntary program hoping that, if that government initiative is viewed as successful, the likelihood that mandatory regulation will be adopted in the future will decrease.[112] In some cases, this expectation is based on more than pure conjecture. Minnesota's voluntary program dealing with water pollution from agricultural sources, for example, explicitly provided that it would exempt

106. Matthew Potoski & Aseem Prakash, *Protecting the Environment: Voluntary Regulations in Environmental Governance*, 11 Pol'y Currents 9, 13 (2002) ("[F]irms can reap many non-monetary and monetary benefits for joining voluntary programs.").

107. Scott Sherman, *Government Tax and Financial Incentives in Brownfields Redevelopment: Inside the Developer's Pro Forma*, 11 N.Y.U. Env't L.J. 317, 338–39 (2003); Potoski & Prakash, *supra* note 18.

108. Richard H. Thaler & Cass R. Sunstein, Nudge: Improving Decisions About Health, Wealth, and Happiness 197 (2008); Dawn DeVroom, *Is Your Business In A Top ENERGY STAR City?*, IDR Env't Serv. (May 29, 2024), https://perma.cc/2VLB-6VZR.

109. Coglianese & Nash, *supra* note 16, at 238 (noting that a voluntary program may help companies to "appeal to customers"); Borck & Coglianese, *supra* note 1, at 313; David O. Ward et al., *Factors Influencing Willingness-to-Pay for the ENERGY STAR Label*, 39 Energy Pol'y 1450, 1450 (2010).

110. *See infra* note 145 and accompanying text.

111. Thomas P. Lyon & John W. Maxwell, *"Voluntary" Approaches to Environmental Regulation, in* Economic Institutions and Environmental Policy 94–95 (Maurizio Franzini & Antonio Nicita eds., 2002).

112. Coglianese & Nash, *supra* note 16, at 242–43 (citing Kathleen Segerson & Thomas Miceli, *Voluntary Environmental Agreements: Good or Bad News for Environmental Protection?* 36 J. Env't Econ. & Mgmt. 109, 128 (1998)).

participating farmers from future regulation.[113] Moreover, as explained below, participation in certain water banks leads to a waiver of regulatory requirements that would otherwise apply to water right holders.[114]

C. The Performance and Criticisms of Voluntary Regulation

Voluntary initiatives have been subject to harsh criticism. In particular, critics have focused on the following three issues to question the desirability of programs of this nature: (i) their performance,[115] (ii) the incentives they create on policymakers to forego mandatory regulation,[116] and (iii) their questionable morality.[117]

1. Voluntary Regulation's Performance

In examining the issues that may arise when attempting to determine a voluntary program's performance or effectiveness, Borck and Coglianese's formula can be particularly helpful.[118]

$$\text{Effectiveness} = \left(\begin{matrix}\text{Number of}\\ \text{participants}\end{matrix}\right) \times \left(\begin{matrix}\text{Average effect}\\ \text{per participant}\end{matrix}\right) + (\text{Spillover effects})^{119}$$

This simple but insightful formula shows why it would be inappropriate to assess the effectiveness of a program based solely on the number of participants. While scarcity of participants will certainly be problematic,[120] their abundance is not a guarantee of success.

The average effect per participant is a key metric but also one that tends to be extremely challenging to determine.[121] One of the main problems is tied to the notion of additionality, that is, ensuring that the desirable actions of a participant would not have occurred in the absence of the program.[122] For example, if a voluntary program tries to encourage industrial operators to reduce their

113. Sherry A. Enzler, *EPA-Minnesota AG Certainty Program—Is It up to the Task of Cleaning Our Waters?*, 39 William Mitchell L. Rev. 959, 962 (2013).
114. *See infra* notes 206–207 and accompanying text.
115. *See infra* Part II.C.1.
116. *See infra* notes 133–135 and accompanying text.
117. *See infra* notes 136–138 and accompanying text.
118. Borck & Coglianese, *supra* note 1, at 310.
119. Spillover effects capture impacts of the program on certain types of non-participants. *See infra* note 175.
120. Roger Claassen & Marc Ribaudo, *Cost-Effective Conservation Programs for Sustaining Environmental Quality*, 31 Choices 1, 4 (2016) ("Cost-effectiveness may be limited when farmers don't participate in conservation programs. . . .").
121. Borck & Coglianese, *supra* note 1, at 310.
122. Marc Ribaudo & Jeffrey Savage, *Controlling Non-Additional Credits from Nutrient Management in Water Quality Trading Programs Through Eligibility Baseline Stringency*, 105 Ecological Econ. 233, 233 (2014); Shelley Welton, *Neutralizing the Atmosphere*, 132 Yale L.J. 171, 203 (2022); James Salzman & David Weisbach, *The Additionality Double Standard*, 48 Harv. Envtl. L. Rev. 117, 123 (2024).

emissions of a particular pollutant and we observe these reductions, to what extent may one conclude that these reductions were in fact *caused* by the program? Additionality may be lacking for a number of reasons, including changes in technology or market forces that make the adoption of the practices the program tries to incentivize economically beneficial independent of the program.[123] When that occurs, participants may be receiving the program's incentives to do what they would have done anyway. Measuring whether that is the case or not requires establishing a baseline reflecting what would have occurred in the absence of the program.[124] This type of analysis entails great complexity and requires the use of sophisticated statistical tools.[125]

In light of this, it is not surprising that critics of voluntary regulation have focused to a significant extent on issues of effectiveness, including additionality. In some cases, the central claim is that voluntary regulation in the environmental context yields limited to no results and is often used for greenwashing purposes, that is, to create the false illusion that participants are improving their environmental performance.[126] This is often attributed to regulatory capture and the argument that voluntary regulation, unlike its mandatory counterpart, typically faces limited public scrutiny.[127] Other researchers have noted that, given the difficulty of determining the effects of some voluntary programs, skepticism is justified.[128] In particular, several authors highlight the challenges associated with setting adequate baselines or counterfactual scenarios—i.e., those reflecting what would

123. Ribaudo & Savage, *supra* note 122, at 234 (noting that inclusion of non-additional services in a conservation program can result from a "failure to account for adoption trends for new practices that increase net returns or provide other private benefits to farmers"); Luis Inaraja Vera, Making Dirty Land Clean: An Analysis of New York City's Voluntary Cleanup Program 15 (2018) [hereinafter Inaraja Vera, NYC VCP].

124. Matthieu Glachant & Gildas de Muizon, *Climate Change Agreements in the United Kingdom: A Successful Policy Experience?, in* Reality Check, The Nature and Performance of Voluntary Environmental Programs in the United States, Europe, and Japan 64, 73 (Richard D. Morgenstern & William A. Pizer eds., 2007); Sanna Lötjönen et al., *Offset Ratios and Temporary Contract Designs for Climate Integrity in Carbon Farming*, 15 Carbon Mgmt. 1, 3 (2024).

125. *See, e.g.*, Luis Inaraja Vera, *Assessing the Performance of Voluntary Environmental Programs*, 2020 Utah L. Rev. 795, 860 (2020) [hereinafter Inaraja Vera, *Voluntary Programs*].

126. Matthew Potoski & Aseem Prakash, *Voluntary Programs, Compliance and the Regulation Dilemma, in* Handbook on the Politics of Regulation 91 (David Levi-Faur ed., 2011); Aseem Prakash & Matthew Potoski, *Voluntary Environmental Programs: A Comparative Perspective*, 31 J. Pol'y Analysis & Mgmt. 123, 125–26 (2012).

127. Richard D. Morgenstern & William A. Pizer, *Introduction: The Challenge of Evaluating Voluntary Programs, in* Reality Check, The Nature and Performance of Voluntary Environmental Programs in the United States, Europe, and Japan 1, 2–3 (Richard D. Morgenstern & William A. Pizer eds., 2007); Potoski, *supra* note 126, at 126.

128. Daniel Matisoff, *Sources of Specification Errors in the Assessment of Voluntary Environmental Programs: Understanding Program Impacts*, 48 Pol'y Sci. 109, 114 (2015).

occur if the program did not exist.[129] Another related criticism is that the improvements observed in certain areas targeted by voluntary programs are likely to be unrelated to this type of regulation and can easily be attributed to other factors.[130]

While some of these shortcomings may be accurate in the context of specific voluntary programs, it is important not to extrapolate these conclusions to voluntary regulation in general given how these initiatives vary in terms of typology and structure. For example, Drs. Morgenstern, Pizer, and Shih conclude that Climate Wise—a voluntary program aimed at reducing energy consumption and emissions—did not have a significant, long-lasting impact, but they also point out that their conclusions should not be extended to other types of voluntary programs.[131] Moreover, the difficulty of assessing the extent of the impact of voluntary regulation should not be viewed as evidence of a lack of performance. In fact, some voluntary programs are broadly regarded as extremely successful, such as EPA's Energy Star and WaterSense.[132]

2. Discouraging Mandatory Regulation

Skeptics of voluntary regulation have claimed that once a government agency implements a voluntary program to address a particular policy issue, the likelihood that more effective mandatory regulation will be adopted in the future decreases.[133] The explanation for this phenomenon is that once a voluntary program is in place, it eases the pressure on public officials and politicians to work

129. *See id.*; Richard D. Morgenstern et al., *Evaluating Voluntary U.S. Climate Programs: The Case of Climate Wise, in* Reality Check, The Nature and Performance of Voluntary Environmental Programs in the United States, Europe, and Japan 118, 124 (Richard D. Morgenstern & William A. Pizer eds., 2007); Richard D. Morgenstern & William A. Pizer, *Conclusion Observations: What Can We Learn from the Case Studies?, in* Reality Check, The Nature and Performance of Voluntary Environmental Programs in the United States, Europe, and Japan 166, 184 (Richard D. Morgenstern & William A. Pizer eds., 2007).

130. Coglianese & Nash, *supra* note 16, at 246.

131. Morgenstern et al., *supra* note 129, at 135–36.

132. *ENERGY STAR Impacts*, Energy Star, https://perma.cc/8YRC-MUDJ; Huan Li & Carmen E. Carrion-Flores, *An Analysis of the ENERGY STAR Program in Alachua County, Florida*, 131 Ecological Econ. 98, 98 (2017) ("Our results indicate that ENERGY STAR residences have a long term, greater energy efficiency savings over Non-ENERGY STAR houses."); Lauren Urbanek, *ENERGY STAR Is a Success. Fund It, Don't Change It!*, Nat. Res. Def. Council (Nov. 6, 2017), https://perma.cc/T23N-AMGU; *Accomplishments and History*, EPA, https://perma.cc/Y4RK-KJ32 (discussing WaterSense); Alicia Marrs, *Water Sense Award Winners Showcase the Way to Water Savings*, 102 J. Am. Water Works Ass'n 61, 61 (2010) ("In addition to significant water savings, these products helped achieve a corresponding energy reduction of more than 1 bil kWh and avoided greenhouse gas emissions.").

133. Böhringer & Frondel, *supra* note 128, at 109 ("[T]he strategic objective pursued by firms and industries via voluntary commitments is to avoid, or at least delay, costly mandatory policy interventions."); Madhu Khanna, *The U.S. 33/50 Voluntary Program: Its Design and Effectiveness*, *in* Reality Check, The Nature and Performance of Voluntary Environmental Programs in the United States, Europe, and Japan 38 (Richard

further on that policy issue.[134] As discussed below, however, there are numerous examples of mandatory regulation adopted after voluntary initiatives were already in place, which suggests that, if there is indeed any dampening of mandatory regulation when voluntary programs are in place, this is not a generalized phenomenon.[135]

3. The Morality of Using Voluntary Regulation

The third criticism of voluntary regulation relates to its morality. Due to the voluntary nature of these programs, potential participants are incentivized to enroll.[136] Specifically in the case of programs that rely on payments to create these incentives, this can give the impression that individuals or firms must be "bribed" in order to engage in the socially desirable practices the program promotes.[137] In other words, this approach would seem to suggest that these potential participants have a right to cause the type of harm that voluntary regulation aims to prevent.[138] While this objection is valid in many cases, it does not apply uniformly across the voluntary regulation landscape. For example, some programs of this nature provide technical assistance rather than monetary incentives.[139] Other voluntary initiatives provide financial incentives to landowners to remediate soil and groundwater contamination, even though a prior owner or operator may have caused the release of the hazardous substances that will now be cleaned up under the program.[140]

III. Notable Voluntary Regulation Efforts

This Part examines how voluntary regulation operates in three different fields: private land conservation, water resources management, and hazardous substance pollution. The areas and programs analyzed are very different in many respects, which offers a broad and comprehensive understanding of how government agencies use voluntary regulation. Some of these programs are authorized at the federal level, such as farm bill programs, while others fall under the purview of state governments, such as water banks and voluntary cleanup programs. Moreover, these initiatives cover issues relevant to rural communities, such as

D. Morgenstern & William A. Pizer eds., 2007) ("Firms welcomed the program because it allowed them to preempt more command-and-control type regulations.").

134. Coglianese & Nash, *supra* note 16, at 240.

135. *See infra* notes 368–373 and accompanying text.

136. *See supra* notes 106–110 and accompanying text.

137. Douglas Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Nonpoint Source Water Pollution*, 9 Wash. U. J.L. Pol'y 21, 28 (2002).

138. *See id.*

139. Borck & Coglianese, *supra* note 1, at 308.

140. Stephanie A. Rotter, *Making It a Federal Issue: The Unjustifiable Expansion of Federal Common Law to Corporate Successor Liability under CERCLA*, 83 St. John's L. Rev. 427, 434 (2009).

farm bill programs and water banks, but also those pertaining to urban environments, as with voluntary cleanup programs. In all cases, however, the voluntary regulations that this Part explores attempt to address particularly important and thorny issues in diverse domains of environmental protection and natural resources conservation.

The following subparts adopt a similar structure to facilitate comparisons between programs. For each area, the analysis focuses on a key category of voluntary regulation and explores its goals, the underlying policy issues it attempts to address, its structure, how it operates in practice, an example of a notable program or programs, and the most common criticisms that have been levied against the use of voluntary approaches in these domains.

A. Private Land Conservation: Federal Farm Bill Programs

The Natural Resources Conservation Service ("NRCS") and the Farm Service Agency ("FSA") administer a wide range of voluntary programs to promote conservation on agricultural lands.[141] These programs are authorized by the Farm Bill, which, since the enactment of the Agricultural Adjustment Act in 1933, Congress must pass regularly—typically, every five years—to provide financial support for agriculture.[142] Since 1985, some of that support has focused on addressing the environmental impacts of farming, especially loss of soil, degradation of ecosystems, and releases of pollutants into surface water and groundwater.[143] Additional goals of conservation programs include reducing soil erosion, preserving wildlife habitat, and promoting the protection of forests and wetlands.[144]

Although, again, there is significant variation across programs, the basic principle is that landowners or operators receive financial and technical assistance if they commit to either leaving certain lands out of production—i.e., land retirement programs—or adopting environmentally beneficial practices on working lands—i.e., working lands programs.[145] Two programs are worthy of note: (i) the Conservation Reserve Program ("CRP"), which is administered by FSA and is the most important land retirement program; and (ii) the Environmental Quality Incentives Program ("EQIP"), administered by NRCS and one of the largest working lands programs.[146]

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141. Claassen & Ribaudo, *supra* note 120, at 2.

142. Bradley R. Finney, *Capitalizing on the Kiwis: Using New Zealand's Success to Reform United States Agriculture*, 96 Tul. L. Rev. 563, 571 (2022); Johnson & Monke, *supra* note 8, at 1.

143. Williams, *supra* note 137, at 95; J. B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law,* 27 Ecology L.Q. 263, 274 (2000).

144. *Conservation Programs,* Farm Service Agency, https://perma.cc/NF8P-RTFP; *Farm Bill,* Nat. Res. Conservation Serv., https://perma.cc/6N49-FXUK.

145. Frank Gottron et al., Cong. Rsch. Serv., R45525, The 2018 Farm Bill (P.L. 115-334): Summary and Side-by-Side Comparison 17 (2024), https://perma.cc/2BE8-VXCM.

146. *See id.*; U.S. Dep't of Agric., Farmers' Guide to Farm Bill Programs 2 (2019), https://perma.cc/X2F9-D5UF.

CRP is a voluntary program, initially authorized in the Food Security Act of 1985, whereby agricultural producers agree not to farm or ranch sensitive agricultural land and instead dedicate it to conservation goals.[147] Owners, operators, or tenants of eligible lands—e.g., highly-erodible cropland, pasture land, and grasslands—can express their interest in participating in the program by submitting an offer.[148] The agency[149] then ranks offers under the Environmental Benefits Index, which focuses on the following factors: wildlife habitat benefits, water quality benefits, on-farm benefits from reduced erosion, benefits that will likely endure beyond the contract period, air quality benefits, and cost.[150] Formal enrollment in the program takes place upon signing a contract with the agency, which includes a set of terms and conditions and a conservation plan.[151] The duration of the contract is between 10 and 15 years.[152] The conservation plan includes the practices that the participant will adopt to further the program's goals—for example, establishing vegetative cover.[153] Moreover, the participant agrees not to allow commercial or agricultural use of the enrolled land, with some limited exceptions.[154]

In order to incentivize the enrollment of eligible land in the program, the agency offers financial and technical assistance.[155] Financial assistance can include cost-share payments, annual rental payments, and incentive payments.[156] Cost-share payments are aimed at covering a portion of the cost participants incur when installing certain practices included in the conservation plan.[157] Annual rental payments, on the other hand, are intended to compensate participants for the foregone production.[158] Their specific amounts are set in the contract following the guidelines in the regulations.[159] In some cases, participants

147. Megan Stubbs, Cong. Rsch. Serv., R42783, Conservation Reserve Program (CRP): Status and Issues 1 (2014), https://perma.cc/8PK5-RY4R; Farm Service Agency, U.S. Dep't of Agric., Conservation Reserve Program 1 (2024), https://perma.cc/8S5A-SQLH.

148. 7 C.F.R. §§ 1410.5(a), 1410.32(c); 16 U.S.C. § 3831(b).

149. Even though the regulations contemplate that the Commodity Credit Corporation will perform a key role in the administration of the program, this is done using FSA personnel and facilities. *Commodity Credit Corporation*, U.S. Dep't of Agric., https://perma.cc/SPU6-X9VZ; Farm Service Agency, *supra* note 147, at 1.

150. Farm Service Agency, *supra* note 147, at 1.

151. 7 C.F.R. § 1410.32(a)–(b).

152. 16 U.S.C. § 3831(e).

153. 7 C.F.R. § 1410.23(a).

154. 7 C.F.R. §§ 1410.20(a)(5), 1410.63.

155. 7 C.F.R. § 1410.3(a).

156. 7 C.F.R. §§ 1410, 1410.21(a)–(b).

157. *See id*.

158. Daniel Bigelow et al., U.S. Dep't of Agric., Econ. Rsch. Serv., EIB-215, The Fate of Land in Expiring Conservation Reserve Program Contracts 19 (2020), https://perma.cc/73PV-H5EG; Stubbs, *supra* note 147, at 4.

159. 7 C.F.R. § 1410.42(a).

may also be eligible for signup incentive payments that try to incentivize certain practices.[160]

A last feature of CRP worth highlighting is, of course, its voluntary character. As noted above, potential participants make the decision of whether to make an offer to the agency early on in the process.[161] However, once that offer has been submitted, it remains irrevocable for a certain period of time.[162] If it is revoked during that time, the producer is liable for liquidated damages.[163] Similarly, if once a contract has been entered into with the agency, a participant does not comply with its terms and conditions, the agency may terminate the contract.[164] In addition, the participant will be obligated to refund any previous payments, plus interest, and pay the amount of liquidated damages contemplated in the contract.[165] This illustrates the idea that, while the decision of whether to enroll is voluntary, once this has occurred, the participant is bound by the conditions and requirements of the program.

Another notable conservation program is EQIP, which provides assistance to agricultural producers to implement conservation practices.[166] Producers eligible to participate in the program include persons or entities "engaged in agricultural production or forestry management on the agricultural operation."[167] The assistance provided by the program can be used on a wide variety of lands that produce "agricultural commodities, livestock, or forest-related products."[168] As a working lands program, it does not require participants to leave the land out of production.[169] In order to participate, eligible producers submit an application to NRCS and, if the application is selected, the participant enters into a contract and agrees to adopt specific conservation practices, which include those aimed at promoting soil health, wildlife habitat protection, and the improvement of water quality and quantity.[170] The term for initial EQIP contracts may not exceed 10 years.[171]

Participants receive payments to cover up to 75% of the costs of planning and implementing conservation practices and up to 100% of the income foregone as a consequence of the adoption of some of these practices.[172] Under some

160. *Id.* § 1410.45(a), (d).
161. *See supra* note 148 and accompanying text.
162. 7 C.F.R. § 1410.32(c)(2).
163. *See id.*
164. *Id.* § 1410.52(a).
165. *Id.* § 1410.52(b).
166. U.S. Dep't of Agric., Nat. Res. Conservation Serv., Environmental Quality Incentives Program (2019), https://perma.cc/Y54C-GNDF.
167. 7 C.F.R. § 1466.3.
168. *See id.*
169. Megan Stubbs, Cong. Rsch. Serv., R40197, Environmental Quality Incentives Program (EQIP): Status and Issues 1 n.3 (2011), https://perma.cc/6KYQ-KXD3.
170. 7 C.F.R. §§ 1466.20(a)(1), 1466.21(a); 16 U.S.C. § 3839aa-2(d)(3), (d)(7)(A).
171. 7 C.F.R. § 1466.21(b)(2).
172. 16 U.S.C. § 3839aa-2(d)(2).

circumstances, participants may receive additional payments, for example, when they are adopting water conservation or irrigation efficiency practices.[173] As with CRP, while EQIP is a voluntary program and, therefore, a producer is free to choose whether to participate in it or not, if the agency terminates a contract due to a breach on the part of the participant, the latter may be required to refund any payments received, plus interest, as well as to pay liquidated damages.[174]

The extent to which voluntary conservation programs represent a suitable approach to dealing with the environmental impacts of agricultural activities is a contested issue. Some scholars have argued that these programs are expensive, ineffective, and likely to lead to situations where participants are not complying with the agreed upon obligations.[175] Three aspects relating to program effectiveness should be considered, namely participation, additionality, and, more generally, whether the programs generate positive outcomes.

Starting with participation, it is unquestionable that, overall, federal conservation programs have attracted the interest of numerous agricultural producers. In 2023, for example, CRP participants enrolled close to 26 million acres of land.[176] However, this does not mean that these programs are cost-effective in the sense of ensuring that the type of land that is being enrolled is also that which is capable of generating the greatest improvements in environmental outcomes.[177] One strategy that is already being implemented is to prioritize high-value properties in the selection process by providing higher payments to participants who enroll land that has a significant potential to deliver environmental results. For example, as noted earlier, offers to enroll in CRP are ranked based on the environmental benefits of the land and proposed practices, and additional payments are authorized "to participants whose contracts are expected to provide especially high environmental benefits."[178] Similarly, when ranking EQIP applications, NRCS considers factors such as "[t]he magnitude of the expected conservation benefits" provided by the proposed practices.[179] Increased payments are also available where, for instance, the proposed

173. *Id.* § 3839aa-2(h)(1).

174. 7 C.F.R. §§ 1466.6(a), 1466.26(e).

175. Ruhl, *supra* note 143, at 326 ("Almost no one is completely satisfied with the crop payment/green payment system of farm conservation policy. . . . [T]he results have come only at huge taxpayer cost."); Austin Holland, David Bennett & Silvia Secchi, *Complying with Conservation Compliance? An Assessment of Recent Evidence in the U.S. Corn Belt*, 15 Env't Res. Letters 1, 1 (2020) ("[T]here was a substantial increase in . . . non-compliance[] in several portions of the study area in correspondence with higher crop prices.").

176. *Conservation Reserve Program,* U.S. Dep't of Agric., U.S. Farm Serv. Agency, https://perma.cc/MNQ4-6RPU.

177. Claassen & Ribaudo, *supra* note 120, at 5 ("Non-participation by farmers who could produce large environmental gains relative to cost could limit cost-effectiveness.").

178. 7 C.F.R. § 1410.45(e); *see also supra* note 150.

179. 7 C.F.R. § 1466.20(b)(2)(ii).

conservation practice on a particular property "[i]s geographically targeted to address a natural resource concern in a specific watershed."[180]

Additionality is also an important consideration related to the effectiveness of these programs.[181] Perhaps not surprisingly, given that implementing conservation practices has an economic cost, studies have observed significant additionality in this context. Dr. Santosh Pathak and others, for example, found that the practices adopted by participants in EQIP in Louisiana were additional.[182] Dr. Roger Claassen and others examined the additionality of different practices in conservation programs and concluded that structural practices—i.e., those "that involve physically reshaping land and/or placing permanent vegetation in strategic locations"—are additional for roughly 80% of farms that implement them.[183] They also found that management practices—i.e., those "involve changes in the methods used to plant or fertilize crops, manage livestock grazing, use irrigation water, etc."—have an additionality of 56% for conservation tillage and 88% for nutrient and manure conservation plans.[184]

When it comes to determining whether voluntary conservation programs are achieving positive outcomes, despite the large number of acres of land enrolled and billions of dollars invested in conservation measures, policymakers are still far from reaching water quality goals.[185] Of course, this observation should not lead us to conclude that the programs have no positive effect on water quality. In fact, because some studies have found a positive effect of conservation programs on water quality, there is reason to believe that, in their absence, the amount of agricultural pollution reaching bodies of water would be greater.[186] There is also evidence of effectiveness if one examines certain intermediate goals of conservation programs. Dr. Byungyul Park and others, for instance, observed that EQIP payments have a positive effect on the adoption of cover crops, a practice that supports soil sustainability and reduces nitrate water pollution.[187] An important reason why voluntary conservation programs are not

180. *Id.* § 1466.23(c)(1)(iv).

181. *See supra* note 122 and accompanying text.

182. Santosh Pathak, Krishna P. Paudel & Naveen C. Adusumilli, *Impact of the Federal Conservation Program Participation on Conservation Practice Adoption Intensity in Louisiana, USA*, 68 Env't Mgmt. 1, 10 (2021).

183. Roger Claassen et al., U.S. Dep't of Agric., Additionality in U.S. Agricultural Conservation and Regulatory Offset Programs 4, 41 (2014), https://perma.cc/57SR-G5AE.

184. *Id.* at 5, 41.

185. Marc Ribaudo, *The Limits of Voluntary Conservation Programs*, 30 Choices 1, 1 (2015).

186. *See, e.g.*, Brianna Trotter, Assessing the Impact of EQIP-Funded Agricultural Conservation Practices on Water Quality in Colorado: The Republican, South Platte, Arkansas, and Rio Grande Watersheds i, iii (2021) (M.S. thesis, Colorado State University).

187. Byungyul Park et al., *Payments from Agricultural Conservation Programs and Cover Crop Adoption*, 45 Applied Econ. Persps. & Pol'y, 984, 984 (2023); Alejandro Plastina et al., *Cover Crops Use in Midwestern US Agriculture: Perceived Benefits and Net Returns*, 35 Renewable Agric. & Food Sys. 38, 38 (2020).

uniformly viewed as a particularly economical and effective approach has more to do with the complexity of the problems they intend to address than with the inherent limitations of this regulatory tool. As Professor Douglas Williams has eloquently put it, "the sheer number of farms, their very different practices and locations in the landscape, and their varying potential for water quality impacts make a [traditional mandatory approach] appear quite fantastical."[188]

While voluntary regulation in this context has been criticized, mandatory regulation also faces serious challenges. First, there has been ferocious political resistance to the regulation of the water quality impacts of farming operations.[189] Second, mandatory regulation that tries to achieve similar goals to those pursued by land retirement conservation programs is likely to trigger the Takings Clause and thus require the payment of compensation.[190] These issues, which will be discussed in more depth in Part IV, explain why, despite some of the criticisms levied against voluntary programs, this approach still dominates the conservation on private land and nonpoint source pollution regulatory landscapes.[191]

B. Water Resource Management: Water Banks

Water banks are often described as a voluntary tool aimed at facilitating the temporary or permanent exchange of water rights.[192] They can be managed by government agencies, tribes, non-profit organizations, or private entities.[193] In order to maintain consistency with the definition of voluntary regulation provided earlier,[194] this discussion focuses only on water banks that (i) are voluntary, (ii) are directly administered by a government entity, (iii) have eligibility requirements, and (iv) confer specific benefits on their participants.

By connecting water users who would like to make water available to others with those who need that resource, water banks can serve a number of purposes.[195] One is to allow the transfer of water from lower-value to higher-value sources.[196] Another purpose is to address the environmental effects

188. Williams, *supra* note 137, at 27.

189. *See infra* notes 258–261.

190. *See infra* Part IV.C.1.a.

191. Williams, *supra* note 137, at 27 (noting how the current approach to reducing agricultural water pollution relies on voluntary programs).

192. Sarah Brennan, A Review of Water Banking in State Legislation of the Western United States 1–2 (2017) (M.S. thesis, Oregon State University), https://perma.cc/Q25F-FM8K; Reuben Siegman, *Water Banking: A Potential Solution or Misguided Idea*, Geo. Env't L. Rev. (Mar. 13, 2022), https://perma.cc/R6EW-56LP; John Stavney, *Flexible Water Sharing Reduces Risk in Dry Times*, Colo. River Dist., https://perma.cc/KVB2-6V9C.

193. Jennifer J. Seely, Comment, *Water Banks in Washington State: A Tool for Climate Resilience*, 96 Wash. L. Rev. 729, 742–43 (2021).

194. *See supra* Part II.B.

195. Lawrence J. MacDonnell, *Water Banks: Untangling the Gordian Knot of Western Water*, 41 Rocky Mt. Min. L. Inst. 22-1, 22-6–22-7 (1995).

196. Jacob Turner, *Softening the Fall: Expanding Water Banks to Extend Declining Kansas Aquifers*, 28 Kan. J.L. & Pub. Pol'y 252, 263 (2019).

associated with water scarcity.[197] Especially during periods of drought—though not exclusively—water levels in rivers, streams, and lakes can fall below what is regarded as safe for aquatic and riparian ecosystems.[198] This can be avoided by using water banks to provide additional water to maintain these so-called instream or environmental flows.[199] Lastly, water banks can supply water for other uses, such as domestic and agricultural, during times of shortage.[200]

When policymakers create or authorize the creation of water banks, they operate under the premise that facilitating these voluntary water transactions will help achieve these different goals.[201] This general objective, however, does not predetermine the precise structure of the bank and, therefore, there is great variability in the specific attributes of these programs.[202] Some of the potential design choices include whether banks will be public—that is, operated by a government entity—or private—managed by a private individual or organization; whether the transfers of rights are permanent, temporary, or both; or whether those who administer the bank take a more active role that includes buying water and later selling it to others or merely connect potential buyers with sellers.[203]

Water banks incentivize water users to sell or lease their water rights in at least two different ways that do not require traditional monetary incentives.[204] First, water banks provide a marketplace for water rights which makes these exchanges easier and cheaper.[205] Second, water rights that are made available in a water bank often have certain protections that they would otherwise not enjoy. In Western states, where prior appropriation is the main surface water allocation approach, water rights may be lost under the doctrines of abandonment or forfeiture if they are not used for an extended period of time.[206] Participation

197. *Id.* at 264.

198. Luis Inaraja Vera, *Instream Flows in California and Spain: The Thorny Issue of Compensation*, 27 Geo. Int'l Env't L. Rev. 199, 199–200 (2015) [hereinafter Inaraja Vera, *Instream Flows*].

199. Turner, *supra* note 196, at 264.

200. MacDonnell, *supra* note 195, at 22-19.

201. *See supra* note 192 and accompanying text.

202. Sina Fazeli et al., *Introducing Water Banks: Principles and Importance*, *in* Economical, Political, and Social Issues in Water Resources 92 (Omid Bozorg-Haddad ed., 2021).

203. Nazaret M. Montilla-López, Carlos Gutiérrez-Martín & José A. Gómez-Limón, *Water Banks: What Have We Learnt from the International Experience?*, 8 Water J. 3–4 (2016).

204. *See* Nazaret M. Montilla-López, José A. Gómez-Limón & Carlos Gutiérrez-Martí, *Sharing a River: Potential Performance of a Water Bank for Reallocating Irrigation Water*, 200 Agric. Water Mgmt. 47, 56 (2018) (focusing cost analysis on those "borne by the public agency that manages the water bank").

205. Montilla-López, Gutiérrez-Martín & Gómez-Limón, *supra* note 203, at 2.

206. Luis Inaraja Vera, *Takings Property and Appropriative Rights*, 44 Cardozo L. Rev. 271, 289–90 (2022) [hereinafter Inaraja Vera, *Takings Property*] (explaining the difference between these doctrines as well as noting that nonuse does not always automatically lead to a loss of the right).

in water banks often shields water rights from being terminated under these so-called use-it-or-lose-it doctrines.[207]

Utah's recent water banking legislation provides a good example of this type of voluntary regulation.[208] This initiative is aimed at creating water banks that are local, voluntary, and temporary, meaning it focuses on leasing as opposed to selling of water rights.[209] The Act allows the creation of two types of banks, contract water banks and statutory water banks. The latter type of water bank includes public legal entities that facilitate the leasing of water rights, which falls squarely within the definition of voluntary regulation provided above.[210] This legislation incentivizes water rights holders to lease their rights by following three main strategies. First, it simplifies transactions by streamlining the administrative approvals necessary to transfer a water right once it has been deposited in the bank.[211] Second, rights that have been authorized to be used in a water bank are exempt from the doctrine of forfeiture.[212] Third, water rights are protected from condemnation while the entity that manages the bank is leasing it, as well as for a period of five years after the lease ends.[213]

When the government's role in water banks is even more significant, these initiatives tend to look less like voluntary regulation and more like a public program that is fully led and fully implemented by an agency with a critical but more limited reliance on private party action. The types of water banks that have been created in Spain during the past two decades provide an illustration of this type of program. In 1999, the Spanish legislature allowed the exchange of water rights—i.e., water markets—through two separate methods: (i) by making it possible for water right holders to temporarily transfer their rights directly to other water users and (ii) by laying out a process to set up water banks.[214] Water banks in Spain are operated by water management agencies—also known as basin authorities—which publish an offer to voluntarily acquire water rights in a particular area and subsequently transfer them to other water users at a

207. MacDonnell, *supra* note 195, at 22-10–22-11, 22-30–22-32; *see, e.g.*, Wash. Rev. Code § 90.14.140(2)(h) (exempting rights that are part of the trust program from statutory forfeiture).

208. Utah Code Ann. §§ 73-31-101 to -601 (2020).

209. *Utah Statewide Marketing Strategies,* Utah Dep't of Nat. Res. (2023), https://perma.cc/23BS-VJAY.

210. Emily Lewis & Robert DeBirk, *Utah's Water Banking Act – Pilot Projects Underway*, 232 Water Rep. 1, 4 (2023); Utah Code Ann. § 73-31-102(1) (including the requirement that the applicant be a public entity for contract water banks but omitting it in the case of statutory water banks).

211. Lewis & DeBirk, *supra* note 210, at 2.

212. Utah Code Ann. § 73-1-4(2)(e)(xi).

213. *Id.* § 73-31-501(5)(a)–(b).

214. Alberto Garrido & M. Ramón Llamas, *Water Management in Spain: An Example of Changing Paradigms, in* Policy and Strategic Behaviour in Water Resource Management 126, 136 (Ariel Dinar & Jose Albiac eds., 2009).

set price.[215] During an intense drought that took place in 2007 and 2008, for example, the agency in charge of managing water resources in the Segura River Basin transferred water from agricultural to domestic uses and also provided flows to protect ecosystems. [216]

Interestingly, under the Spanish Water Act, it is only possible to create water banks after a number of government approvals and under exceptional circumstances (including severe droughts and overexploitation of aquifers).[217] This has affected how scholars have assessed the program's success. On the one hand, multiple authors have highlighted that the volume of water transferred using water banks in Spain has been rather low, given the limited time during which they have been available.[218] On the other hand, the main proposals in the literature recognize the value of this policy tool and, instead of advocating for its elimination, suggest strategies to expand its scope to make it more widely used.[219]

Water banks in general and the type of water marketing that they facilitate are considered controversial[220] because, without incorporating requirements to that effect, they "will generally not protect the poor, promote the environment, or advance other purely public interests in water resources."[221] More specifically, water transfers can negatively impact certain communities when the resource is no longer available to continue supporting local economic activities.[222] Another common concern is that water banks allow speculation, where private investors control water rights with the only goal of maximizing their profit.[223] As Professor Barton Thompson has noted, however, the best way of protecting against this undesirable behavior in the context of water markets is for governments to design them to promote transparency and enact regulations that will prevent abuse.[224]

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215. *See id*.
216. Sara Palomo-Hierro, Jose A. Gomez-Limon & Laura Riesgo, *Water Markets in Spain: Performance and Challenges*, 7 Water 652, 658 (2015).
217. Water Act arts. 58, 71 (B.O.E. 2001, 176) (Spain).
218. Nazaret M. Montilla-Lopez, Jose A. Gomez-Limon & Carlos Gutierrez-Martin, *Los Bancos de Agua como Instrumento Económico para la Mejora de la Gestión del Agua en España* [Water Banks as an Economic Instrument for the Improvement of Water Management in Spain], 247 Revista Española de Estudios Agrosociales y Pesqueros 95, 118 (2017); Palomo-Palomo-Hierro, Gomez-Limon & Riesgo, *supra* note 216, at 652.
219. Palomo-Hierro, Gomez-Limon & Riesgo, *supra* note 216, at 669 (noting that water exchange centers—that is, water banks—should be expanded); Montilla-Lopez, Gomez-Limon & Gutierrez-Martin, *supra* note 218, at 124–25 (suggesting that water banks not be time-limited as they currently are).
220. Barton H. Thompson, Jr., *Water as a Public Commodity*, 95 Marq. L. Rev. 17, 27 (2011).
221. *Id.* at 51.
222. Elan Ebeling et al., Wash. St. Dep't of Ecology, Water Banking and Water Marketing in Select Western States 15–16 (2019), https://perma.cc/KX6X-5U26.
223. Siegman, *supra* note 192.
224. Barton H. Thompson, Jr., Liquid Asset 113 (2023).

Before concluding this discussion about water banks, it is important to note that, while the goals that they pursue may be accomplished more effectively using mandatory regulation, attempts to do so would face some practical complications. First, the enactment of water-related regulations has been politically challenging given the opposition that these types of rules elicit from water users.[225] Second, enforcing regulations can also be challenging due to the amount of information required to do so. For example, a water allocation agency needs to dedicate a significant amount of resources to be able to detect and terminate a sizeable portion of the water rights in the jurisdiction that are not being used.[226] Third, new regulations that modify or cancel existing water rights can be vulnerable to the claim that they constitute a taking of private property, which may dissuade policymakers from relying on mandatory regulation[227] as it would increase the cost of implementing the new rule. Admittedly, the takings issue does have other solutions. In addition to the actual payment of compensation, I have argued elsewhere that a well-crafted reform that incorporates transition relief, such as delayed implementation, is likely to address these takings concerns. The downside, however, is that the full effect of this type of regulation is not immediate,[228] thus requiring a temporary strategy, such as water banks, to address the issues associated with water scarcity. A more in-depth discussion of the potential coordination between delayed implementation and voluntary regulation is provided in Part V.B.

C. Hazardous Substance Contamination: Voluntary Cleanup Programs

Soil and groundwater contamination are among the most important environmental issues of our time.[229] Not surprisingly, policymakers have deployed a

225. Ludwik A. Teclaff, *An International Comparison of Trends in Water Resources Management*, 7 Ecology L.Q. 881, 888 (1979); *see, e.g.*, Mark Olalde, *Why the Second-Driest State Rejects Water Conservation*, Propublica (Dec. 16, 2021), https://perma.cc/7JP8-A93C (explaining the opposition to water conservation mandates).

226. Andrew H. Sawyer, *Improving Efficiency Incrementally: The Governor's Commission Attacks Waste and Unreasonable Use*, 36 McGeorge L. Rev. 209, 225 (2005) ("[T]he [agency] has not kept up with the need to process forfeitures where the permittee or licensee has ceased putting the water to beneficial use. Both the lack of resources for inspections and the costs of going to hearing if a hearing is requested have contributed to this problem."); Terese Richmond, Jenna R. Mandell-Rice & Rachael L. Lipinski, *The Purposeful Tension Within the Doctrine of Beneficial Use*, Nat'l L. Rev. (Aug. 4, 2021), https://perma.cc/W8NM-MKZC ("Forfeitures are not favored, and clear and convincing proof is required to support a forfeiture.").

227. James L. Huffman, Hertha L. Lund & Christopher T. Scoones, *Constitutional Protections of Property Interests in Western Water*, 41 Pub. Land & Res. L. Rev. 27, 43 (2019).

228. Luis Inaraja Vera, *Water Law Transitions in the Era of Climate Change*, 102 Wash. U. L. Rev. 479, 540 (2024) [hereinafter Inaraja Vera, *Water Law Transitions*].

229. See Ronald G. Aronovsky, *A Preemption Paradox: Preserving the Role of State Law in Private Cleanup Cost Disputes*, 16 N.Y.U. Env't L.J. 225, 232 (2008); *Groundwater Contamination: Causes, Consequences, and Solutions*, SL Env't L. Grp. (Sept. 11, 2023), https://perma.cc/CN3T-JU38.

variety of tools to prevent its occurrence and to eliminate or contain this type of pollution.[230] One of these strategies is voluntary cleanup programs ("VCPs"), an approach typically used by states to incentivize the cleanup and redevelopment of potentially contaminated sites.[231] These programs tend to focus on so-called brownfields, that is, "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[232] The federal definition of brownfield excludes sites with particularly high levels of contamination, such as superfund sites that EPA has included in the National Priorities List.[233]

Brownfields, despite not including the most hazardous sites, pose serious challenges. First, the contamination that is often present on these properties can cause a wide variety of health issues to those who are exposed to it or to the groundwater affected by the pollution originating from that site.[234] Second, these parcels, which are often located in urban areas, are likely to remain unused, which incentivizes sprawl, as developers will seek undeveloped properties that are farther from downtown areas, or so-called *greenfields*.[235] Both of these challenges are compounded by the fact that brownfields are very pervasive. Some sources estimate that there are over 450,000 brownfields in the United States.[236]

VCPs do not operate in isolation but are rather part of an intricate regulatory framework. Under both federal and state law, current owners of brownfields—among others—are considered potentially responsible parties, meaning that they are liable for the contamination that originated on the site.[237] VCPs are a necessary part of this system because mandatory regulation imposing liability

230. Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–6992k, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601–9628, and state statutes.

231. David Bates, *Municipal Settings Designations an Important New Tool for Redeveloping Contaminated Property*, Hous. Law., Nov./Dec. 2008, at 14 (discussing Texas' voluntary cleanup program for contaminated sites); Larry Schnapf, *New York Environmental Laws Affecting Commercial Leasing Transactions*, N.Y. St. Bar J., Jan. 2016, at 30, 32–33 (discussing New York's various programs aimed at cleaning contaminated sites including VCPs).

232. 42 U.S.C. § 9601(39)(A).

233. 42 U.S.C. § 9601(39)(B)(ii).

234. D. Hou et al., *Sustainable Remediation and Redevelopment of Brownfield Sites*, 4 Nat. Revs. Earth & Env't 271, 272 (2023).

235. Alexander Maro, Note, *Outsourcing the Filth: Privatizing Brownfield Remediation in New Jersey*, 38 B.C. Env't Affs. L. Rev. 159, 167 (2011); Scott W. Brunner, *Sharing the Green: Reformatting Wisconsin's Forgotten Green Space Grant with A Public-Private Partnership Design*, 95 Marq. L. Rev. 305, 315–16, 322 (2011).

236. *About Brownfields*, EPA (May 10, 2024), https://perma.cc/7G8K-ARDK; Damon D. Tanck, *Getting Snagged in the Environmental Liability Web: The Trouble with CERCLA and Why the Brownfields Act Provides Only Modest Relief*, 35 Tex. Tech L. Rev. 1325, 1343 (2004).

237. Luis Inaraja Vera, *Compelled Costs Under CERCLA: Incompatible Remedies, Joint and Several Liability, and Tort Law*, 17 Vt. J. Env't L. 394, 397 (2016); *see, e.g.*, 42 U.S.C. §§ 9601(9), (20)(A), 9607(a)(1), (4); Wash. Rev. Code § 70.105D.040 (2019); Del. Code Ann. tit. 7, §§ 9103, 9105 (2014).

does not automatically result in contaminated sites being remediated. State agencies have limited resources and are typically not in a position to identify—let alone clean up or bring an enforcement action with respect to—all or even most contaminated sites in their jurisdiction.[238] By inducing current or prospective owners of contaminated sites to come forward, enroll in the program, and clean up brownfields, VCPs relieve state environmental protection agencies from part of their investigative and enforcement duties.[239]

New York State's Brownfield Cleanup Program ("NYS BCP") provides an illustration of how VCPs operate. After a successful pre-application meeting with the Division of Environmental Remediation ("Agency"), an application may be filed for eligible sites, that is, most properties with low to moderate levels of contamination that are not the subject of an enforcement action.[240] Following a public comment period, the Agency will approve or reject the application.[241] If the application is approved, the applicant will enter into an agreement with the Agency to remediate the site.[242] Once the applicant has completed the cleanup following the timeline and conditions set by the Agency, the latter will issue a certificate of completion.[243]

VCP enrollment is incentivized in at least two ways. The first is a liability shield, which can take multiple forms.[244] For example, NYS BCP applicants who receive a certificate of completion for a site will enjoy certain liability protections.[245] The second strategy is to provide economic incentives, which can include subsidies, low-interest loans, and tax credits.[246] In the case of NYS BCP applicants, once they receive a certificate, they may be eligible to receive tax credits associated with costs incurred after the effective date of the cleanup agreement.[247]

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238. Carol S. Amstrong, Small Businesses as Culprits and Clients: A Comparison of Brownfield Redevelopment in Los Angeles and Kuala Lumpur 8 (2004); Ronald G. Aronovsky, *Federalism and CERCLA: Rethinking the Role of Federal Law in Private Cleanup Cost Disputes*, 33 Ecology L.Q. 1, 3 (2006); Stefanie Gitler, *Settling the Tradeoffs Between Voluntary Cleanup of Contaminated Sites and Cooperation with the Government Under CERCLA*, 35 Ecology L.Q. 337, 341–42 (2008).

239. Thomas P. Lyon et al., *Voluntary Cleanup Programs for Brownfield Sites: A Theoretical Analysis*, 70 Env't Res. Econ. 297, 297 (2018).

240. *Brownfield Cleanup Program*, N.Y. State Dep't of Env't Conservation, https://perma.cc/CUC2-8L2L; N.Y. Comp. Codes R. & Regs. tit. 6, § 375-3.3(b).

241. N.Y. Comp. Codes R. & Regs. tit. 6, § 375-3.4(b)(6)–(c).

242. *Id.* §§ 375-3.2(d), 375-3.5(a).

243. *Id.* § 375-3.9(a).

244. Matthew D. Fortney, *Devolving Control over Mildly Contaminated Property: The Local Cleanup Program*, 100 Nw. U. L. Rev. 1863, 1865–66 (2006); James B. Witkin & Kathleen J. Trinward, *The Maryland Voluntary Cleanup Program*, Md. Bar J., May 2008, at 3, 5.

245. N.Y. Comp. Codes R. & Regs. tit. 6, § 375-3.9(b); N.Y. Env't Conserv. L. § 27-1421.

246. Susan Neuman, *Tailored Site Environmental Insurance for Post-Remedial Risks*, 45 Tex. Env't L.J. 295, 307, 309 (2015).

247. N.Y. Comp. Codes R. & Regs. tit. 6, § 375-3.9(e).

These programs have allowed for the oversight of significant numbers of brownfield cleanups. In New York State, over 715 sites have received a certificate of completion since 2005.[248] Other states have also enrolled a significant number of sites in their programs.[249] Moreover, EPA lists a large number of cleanups conducted under VCPs as success stories.[250] It is worth noting, however, that while these numbers suggest that VCPs have been successful at attracting participants, they do not clarify the extent to which VCPs have prompted landowners to clean up and redevelop sites that would have otherwise remained polluted.[251]

IV. When Should Policymakers Consider Using Voluntary Programs?

Part IV builds on the analysis in Part III to derive a set of principles describing the types of situations where voluntary regulation can be a particularly appropriate strategy to address a given policy problem. These instances are: (i) when mandatory regulation is not politically viable, (ii) when mandatory regulation is too costly or impractical to enforce, and (iii) when voluntary regulation is less likely to raise constitutional or legal issues and can lead to speedier outcomes. Because the scenarios outlined in this Part are not mutually exclusive, the likelihood that voluntary regulation will be a desirable policy tool in a specific context will increase when more than one of these circumstances are present. The question of how voluntary and mandatory regulation interact and the extent to which they can and should coexist will be discussed later in Part V.A.

A. When Mandatory Regulation Is Not Politically Viable

Adopting effective mandatory regulation can be challenging when it generates significant opposition from those who would be subject to it. In some cases, the pressure exerted on policymakers is such that proposals to address a particular social problem through mandates—e.g., command-and-control—cannot be adopted. When that occurs, voluntary regulation may offer an alternative path to tackle the issues that would otherwise remain unaddressed.[252]

248. *Brownfield Cleanup Program*, *Certificates of Completion*, N.Y State (Jan. 15, 2025), https://perma.cc/C9KG-KK9H.

249. *See* Inaraja Vera, NYC VCP, *supra* note 123, at 6.

250. *Success Stories*, EPA (July 8, 2024), https://perma.cc/Z7LL-TL46.

251. Inaraja Vera, *Voluntary Programs*, *supra* note 125, at 834.

252. This resistance, however, may decrease in the future, which may then justify replacing voluntary regulation by a mandatory approach. *See* Shi-Ling Hsu, Capitalism and the Environment 129–30 (2021) (explaining that public choice obstacles to mandatory regulation can weaken under the right conditions).

The outsized influence of interest groups on policymakers' decisions is a well-documented phenomenon.[253] This effect is apparent when these groups are able to shape regulation in a way that prevents or discourages competitors from entering the market.[254] As discussed earlier, John Deere was advocating for the imposition of new standards that its competitors could not meet.[255] Similarly, Phillip Morris lobbied for FDA regulation that would raise costs for new cigarette companies.[256]

Perhaps one of the most notorious examples of how interest groups can succeed in suppressing necessary mandatory regulation is found in the water pollution realm. The Clean Water Act exempts nonpoint sources from its main water pollution control framework, the National Pollutant Discharge Elimination System.[257] While this exemption still allows states to regulate these types of discharges, many have chosen not to do so, largely due to political pressure from agricultural interests.[258] Conventional regulation of these sources of agricultural pollution would significantly increase costs in the farming industry, which explains the incentive to attempt to resist such regulation.[259] The success of agricultural interests in creating and maintaining this loophole results from their significant political power. Because farms are numerous, often family-owned, and present in most parts of the country, it is challenging for politicians at any level to avoid their influence.[260] Moreover, agricultural interests are represented by "one of the most powerful lobbying interests in the nation," the American Farm Bureau Federation, which has been a key player in fighting water pollution regulation.[261]

Unlike conventional regulation, voluntary initiatives tend to face little to no resistance from interest groups, which makes it easier for policymakers to adopt these types of programs.[262] This is hardly surprising given that, while mandatory regulation typically imposes costs on the regulated community, voluntary

253. Steven Croley, *Interest Groups and Public Choice*, Pub. Choice & Pub. L. 49, 73 (Daniel A. Farber & Anne Joseph O'Connell eds., 2010) (citing George Stigler, *The Theory of Economic Regulation*, Bell J. Econ. & Mgmt. 17–18 (1971); Richard Posner, *The Federal Trade Commission*, U. Chi. L. Rev. 82–87 (1969); Richard Posner, *Theories of Economic Regulation*, Bell J. Econ. & Mgmt. 337–39 (1974)).

254. *See supra* note 50 and accompanying text.

255. *See supra* notes 51–53 and accompanying text.

256. *See supra* note 51 at 30–31.

257. Robin Kundis Craig & Anna M. Roberts, *When Will Governments Regulate Nonpoint Source Pollution: A Comparative Perspective*, 42 B.C. Env't Affs. L. Rev. 1, 1 (2015).

258. Douglas Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Nonpoint Source Water Pollution*, 9 Wash. U. J.L. Pol'y 21, 25 (2002).

259. Ruhl, *supra* note 143, at 331.

260. *See id.*

261. Linda A. Malone, *The Myths and Truths That Ended the 2000 TMDL Program*, 20 Pace Env't L. Rev. 63, 66–67 (2002); Ruhl, *supra* note 143, at 332.

262. *See* Böhringer & Frondel, *supra* note 128, at 108 ("[T]he most appealing advantage of voluntary commitments from a politician's practical point of view might be that their own

initiatives provide subsidies or other incentives to these entities instead, effectively shifting the economic burden to taxpayers.[263] Thus, voluntary regulation is often used in contexts where policymakers have struggled to adopt mandatory programs. For instance, as explained in depth in Part III, although mandatory regulation aimed at reducing nonpoint sources of water pollution is glaringly insufficient, both states and the federal government have adopted a wide range of voluntary programs to tackle this problem.[264] Similarly, while there are important limitations on the types of mandatory measures that state legislators and regulators have been able to implement to reallocate water resources and increase the efficiency of their use, voluntary initiatives such as water banks have proliferated in recent years as potential alternatives.[265]

Still, none of the claims made in this Article should be interpreted as supporting the idea that voluntary regulation is a perfect substitute for mandatory regulation.[266] The argument that this subpart advances is that, in cases where there is no political will to enact mandatory regulation, voluntary initiatives may be better than doing nothing. As Professor Daniel Cole has highlighted, we often "inhabit a second-best world" when it comes to deciding how to address social and legal problems.[267] Dr. Michael Hatch has emphasized "the value of feasibility and second-best solutions when evaluating policy instruments."[268] This is partially because, when mandatory regulation is not a viable option, it is less likely that there will be a significant opportunity cost associated with using voluntary approaches.[269]

B. When Mandatory Regulation Is Too Costly or Impractical to Enforce

Voluntary regulation can be a useful approach when the enforcement of mandatory regulation is too expensive or otherwise impractical. This can occur

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popularity may not suffer at all, or at least not as much, as it would with mandatory approaches."); Coglianese & Nash, *supra* note 16, at 239.

263. *See supra* notes 106–107 and accompanying text (explaining that voluntary regulation often relies on subsidies and other non-monetary incentives); Richards & van Zeben, *supra* note 11, at 10 (explaining that "an emissions tax [as a form of mandatory regulation] places all costs directly on the polluter, whereas an abatement subsidy places the economic burden on a broad base of taxpayers").

264. Kundis Craig & Roberts, *supra* note 257, at 12 n.84 (citing Robin K. Craig & Terry S. Noto, Env't Def. Fund, State Nonpoint Source Control Programs for Agriculture: A Look at Agricultural Certainty (2012)).

265. *See supra* Part III.B.

266. The different combinations of mandatory and voluntary regulation are discussed below. *See infra* Part V.A.

267. Daniel H. Cole, *Environmental Instrument Choice in a Second-Best World: A Comment on Professor Richards*, 10 Duke Env't L. & Pol'y F. 287, 291 (2000).

268. Hatch, *supra* note 71, at 9.

269. *Cf.* E. Donald Elliott, *Review of Achieving Regulatory Excellence, Cary Coglianese (Ed.)*, 38 Risk Analysis 1758, 1759 (2018) (highlighting the importance of considering opportunity costs when determining whether a particular regulatory approach should be favored).

in at least two situations. First, the regulator may have insufficient information to enforce conventional regulation.[270] Second, the effective enforcement of an existing mandatory regulation may not be politically viable.[271]

The following examples illustrate how voluntary regulation can provide workable alternatives to mandatory regulation in these instances. As explained earlier, brownfield cleanup and redevelopment are complicated by the fact that government agencies often lack information about which parcels in their jurisdiction may be contaminated.[272] The releases of hazardous substances typically occurred decades ago and, while it is theoretically possible to investigate the previous uses of each plot of land and whether contamination is actually present in it or not, doing so requires significant time and economic resources.[273] To be sure, without full knowledge of the location of the brownfields that exist in a jurisdiction as well as of the extent of their contamination, enforcing traditional regulation is extremely challenging. VCPs are able to persuade owners of brownfields to come forward and allow a government agency to oversee the cleanup in exchange for economic incentives and liability protection.[274] By doing so, the prospective participants in the program provide the agency with valuable information that would otherwise have been virtually impossible to obtain. That does not mean, however, that all brownfields are treated alike. The program can limit enrollment to specific types of properties in particular locations where the benefits of these cleanups are greatest.[275]

The following example is also illustrative. One of the strategies to alleviate the effects of the growing scarcity of water resources in the West is to maximize the efficiency of their use.[276] This concern is far from new, which is why doctrines that provide that the failure to use a water right can lead to its loss have been

270. Richards, *supra* note 60, at 258 (noting that, in some cases, it can be very expensive for government agencies to obtain the information they need in order to implement a policy tool, or it may be practically impossible to do so).

271. *See infra* notes 278–281 and accompanying text.

272. *See supra* note 238 and accompanying text.

273. *See* Justin R. Pidot & Dale Ratliff, *The Common Law of Liable Party CERCLA Claims*, 70 Stan. L. Rev. 191, 196 (2018) (explaining the limited funding available to clean up contaminated sites).

274. *See supra* notes 240–243 and accompanying text.

275. *See, e.g.*, RCNY § 43-1418.d.2.B (2019) (providing that, under the New York City Grant Incentive Program, there are additional grants available for projects in Brownfield Opportunity Areas).

276. Christian Smit, *The Reasonable Use Doctrine, the Public Trust Doctrine, and Surface Water Rights in California: Exploring the Frontiers of Water Rights Reform in an Era of Scarcity and Instability*, 45 Environs Env't L. & Pol'y J. 71, 92 (2021) (discussing the various ways to increase the efficiency of water resources in California); Danielle Wolfson, Note, *Come Hell or No Water: The Need to Reform the Farm Bill's Water Conservation Subsidies*, 45 Tex. Env't L.J. 245, 251–55 (2015) (looking at the factors that can increase water scarcity despite the implementation of programs that are trying to increase water efficiency).

in place throughout the West for many decades.[277] The enforcement of these doctrines, however, has been spotty at best.[278] As is the case with other aspects of water law, this resistance results from a combination of lack of political will and insufficient information.[279] Water allocation agencies' ability to detect these practices is limited given that it can be challenging to obtain information about how the water that has already been diverted is actually used.[280] Moreover, even when the mere existence of these use-it-or-lose-it tools does change behavior, they can incentivize water users to divert water for the sole purpose of maintaining the water right, which runs counter to the goal of achieving a more efficient use of the resource.[281] This shows how insufficient information coupled with reluctance to enforce existing mandatory regulation creates a context in which voluntary programs can be valuable.

Voluntary regulation such as water banks can address these issues to a considerable degree. These programs allow water right holders to lease their water rights.[282] This is beneficial because, in addition to the revenue that leasing water rights generates for their holders, banks provide a structure in which these transactions can take place under governmental oversight, and states often exempt those who bank their water rights from the application of use-it-or-lose-it doctrines.[283] As a result, individuals or companies that have water rights that are not being used to their fullest extent have an incentive to self-identify and participate in these programs.

Additional examples can be found in the areas of nonpoint source pollution and habitat conservation. The amount of private land that could be used to advance these two goals is significant.[284] However, regulators lack sufficient information to identify which specific parcels may yield the greatest results

277. *See supra* note 206 and accompanying text; Barton H. Thompson, Jr., et al., Legal Control of Water Resources: Cases and Materials 353 (6th ed. 2018) ("The common law historically provided that appropriators lose water rights by 'abandonment' when they (1) cease to use a water right, and (2) have the intent to abandon the right.").

278. Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 Env't L. 919, 922 (1998) ("[P]rohibitions against waste—even the threat of forfeiture for nonuse—are mostly hortatory concepts that rarely result in cutbacks in water use."); Walter Rusinek, *A Preview of Coming Attractions? Wyoming v. United States and the Reserved Water Rights Doctrine*, 17 Ecology L.Q. 355, 409 (1990).

279. Barton H. Thompson , Jr. et al., *supra* note 277, at 274 (focusing on wasteful practices generally); Karen A. Russell, *Symposium on Northwest Water Law: Wasting Water in the Northwest: Eliminating Waste as a Way of Restoring Streamflows*, 27 Env't L. 151, 157 (1997) (doctrine of waste).

280. Andrew H. Sawyer, *Improving Efficiency Incrementally: The Governor's Commission Attacks Waste and Unreasonable Use*, 36 McGeorge L. Rev. 209, 225 (2005).

281. Neuman, *supra* note 278, at 969 ("[T]he present system encourages water users to err on the side of using too much, because the penalty for nonuse is loss of the water.").

282. *See supra* notes 203–205 and accompanying text.

283. *See supra* note 207 and accompanying text; Part III.B.

284. *See* Stephanie Stern, *Encouraging Conservation on Private Lands: A Behavioral Analysis of Financial Incentives*, 48 Ariz. L. Rev. 541, 545 (2006).

in terms of water quality and conservation at the lowest cost.[285] Interestingly, voluntary regulation in these two areas provides monetary incentives that can lead landowners to be the ones giving the agencies information about how valuable their land is for pollution reduction and conservation purposes, as well as about their willingness to enroll in a program of this nature.[286]

C. When Voluntary Regulation Is Less Likely to Raise Constitutional or Legal Issues and Can Lead to Speedier Outcomes

Government actors that choose to resort to mandatory regulation to tackle a particular policy problem can encounter a wide range of issues, from constitutional and legal challenges to the delay that inheres in the drafting and adoption of such regulation. This subpart addresses how voluntary regulation can avoid many of these shortcomings.

1. Constitutional Challenges

Certain policy goals, if pursued through mandatory regulation, could result in a taking of private property requiring compensation.[287] Some scholars have argued that the prospect of having to potentially compensate those who are adversely impacted inhibits otherwise necessary regulation.[288] Even if the agency is not deterred by the economic cost that a particular regulation entails, it may still prefer not to adopt regulations that may be viewed as a taking. Two reasons why this may happen are to avoid the administrative burdens associated

285. *See id.* at 551; Carrigan & Coglianese, *supra* note 3, at 114–15.

286. James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. Rev. 870, 917 (2005) (explaining how payment schemes, a frequent component of voluntary regulation, can induce landowners to share valuable information with government agencies); Barton H. Thompson, Jr., *Markets for Nature*, 25 Wm. & Mary Env't L. & Pol'y Rev. 261, 280 (2000).

287. Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) ("[I]f regulation goes too far it will be recognized as a taking."); Eric R. Claeys, *Takings, Regulations, and Natural Property Rights*, 88 Cornell L. Rev. 1549, 1554–55 (2003); U.S. Const. amend. V ("[P]rivate property [shall not] be taken for public use, without just compensation.").

288. Susan Rose-Ackerman, *Against Ad Hocery: A Comment on Michelman*, 88 Colum. L. Rev. 1697, 1701 (1988) ("Risk averse officials facing the possibility of [takings claims] against their jurisdictions may restrict their activities simply because they dislike uncertainty."); Christopher Serkin, *Passive Takings: The State's Affirmative Duty to Protect Property*, 113 Mich. L. Rev. 345, 348 (2014) ("[T]he threat of takings liability may well be discouraging some governments from adopting these and other measures that could minimize the impacts of rising seas."); Thomas E. Schnur, *Compensation and Valuation for Regulatory Takings*, 35 DePaul L. Rev. 931, 946 (1986) ("[C]ourts as well as commentators contend that the possibility of financial liability will inhibit land use planning and unduly 'chill' government exercise of regulatory powers."); San Diego Gas & Elec. Co. v. City of San Diego, 450 U.S. 621, 659–60 (1981) (Brennan, J., dissenting) (noting that takings liability may inhibit land use regulation).

with paying compensation or the political pressure exerted by those who view this type of action as causing a harm greater than the constitutionally mandated compensation is able to make up for.[289]

Voluntary regulation can be a valuable alternative in these cases as, although it often still requires a substantial economic investment in the form of monetary incentives, the pressure by landowners to prevent the program from being adopted is typically lacking.[290] Building on the discussion in Part III, the following examples illustrate how, in two contexts in which voluntary regulation is broadly used, employing mandatory regulation instead could lead to an unconstitutional taking of private property: (i) conservation on private land and (ii) the curtailment of water rights.

a. Conservation on Private Land

Efforts to protect species and their ecosystems effectively can clash with landowners' property rights because the habitat inhabited by a large portion of endangered and threatened species is located on private land.[291] Therefore, preventing the deterioration of these habitats is often crucial to the species' survival.[292] To the extent that this is accomplished through development prohibitions, there is a risk that these measures could result in a taking.

One scenario where this may occur is when mandatory regulation prevents the development of the entire parcel, as in *Lucas v. South Carolina Coastal Council*.[293] In that case, David Lucas had purchased two residential beachfront lots. After the state enacted the Beachfront Management Act, however, Lucas was barred from building single-family homes, his intended use for the property.[294] The trial court had concluded that the state regulation had "rendered Lucas's parcels 'valueless,'"[295] and the Supreme Court restated its rule that a categorical taking may take place where "regulation denies all economically beneficial or

289. Barton H. Thompson, Jr., *The Endangered Species Act: A Case Study in Takings & Incentives*, 49 Stan. L. Rev. 305, 353, 360 (1997); Stephanie Stern, *Protecting Property through Politics: State Legislative Checks and Judicial Takings*, 97 Minn. L. Rev. 2176, 2217 (2013) (noting that legislators are often responsive to public pressures in favor of the protection of private property rights).

290. *See supra* notes 262–263 and accompanying text.

291. Stephen Polansky, Holly Doremus & Bruce Rettig, *Endangered Species Conservation on Private Land*, 15 Contemp. Econ. Pol'y 66, 66 (1997).

292. Niall G. Clancy, *Protecting Endangered Species in the USA Requires Both Public and Private Land Conservation*, 10 Sci. Rep. 1, 1 (2020).

293. Lucas v. S.C. Coastal Council, 505 U.S. 1003 (1992); Stern, *supra* note 284, at 549 ("The constitutional prohibition against total deprivations of economic value, articulated in Lucas v. South Carolina Coastal Council, forbids regulation requiring an owner to maintain an entire parcel in its natural or undeveloped state without compensation."); Thompson, Jr., *supra* note 289, at 352 ("The only regulations likely to destroy the entire economic value of a parcel of land, and thus trigger *Lucas*, are those aimed at preserving the land in its natural form.").

294. *See Lucas*, 505 U.S. at 1007.

295. *See id*.

productive use of land."[296] The Court then clarified that this is typically the case when, as in Lucas's situation, a regulation "requires that land . . . be left substantially in its natural state."[297]

Based on the Court's reasoning, it seems clear that, absent a compelling defense, a total prohibition on development to further conservation purposes that both (i) "denies all economically beneficial or productive use of land" and (ii) "render[s] the . . . parcel[] valueless" will result in a *Lucas*-type categorical taking.[298] However, an important question remains unanswered: Would this conclusion also apply where the regulation prevents the landowner from carrying out uses that are considered "economically beneficial or productive" without entirely wiping out the value of the property?[299] Some lower courts have answered this question in the affirmative, while others have concluded that, if the property retains any residual value, the takings claim should instead be analyzed under the general multi-factor test: (i) "the economic impact of the regulation," (ii) interference with investment-backed expectations, and (iii) "the character of the government action," as enunciated in *Penn Central Transportation Co. v. City of New York*."[300]

Even when analyzed under the more deferential *Penn Central* test, some courts have noted that a total prohibition on development is likely to be considered a taking. For example, the plaintiff's land lost 95% of its value after it was designated as a wetland and could no longer be developed in *Matter of Friedenburg v. New York State Department of Environmental Conservation*.[301] The court concluded that, although the existence of a 5% residual value made *Lucas* inapplicable, the regulation effected a *Penn Central* taking.[302]

In a set of cases involving condemned properties that had been designated as wetlands on Staten Island, New York, the courts had to review the compensation that the City of New York had agreed to pay to the landowners.[303] This, in turn, required the courts to determine whether it was likely that the regulations in question effected a taking.[304] Because the parcels were, up to that

296. *See id.* at 1015.

297. *See id.* at 1018.

298. *See id.* at 1007, 1015.

299. Carol N. Brown & Dwight H. Merriam, *On the Twenty-Fifth Anniversary of Lucas: Making or Breaking the Takings Claim*, 102 Iowa L. Rev. 1847, 1856 (2017).

300. *See id.* at 1856–57; Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978).

301. Friedenburg v. N.Y. State Dep't of Env't Conservation, 767 N.Y.S.2d 451, 459 (2003).

302. *See id.* at 458.

303. *In re* New Creek Bluebelt, Phase 3, 92 N.Y.S.3d 293, 295 (N.Y. App. Div. 2019); *In re* New Creek Bluebelt, Phase 4, 997 N.Y.S.2d 447, 449 (N.Y. App. Div. 2014); *In re* New Creek Bluebelt, Phase 4, 168 N.Y.S.3d 505, 507 (2022).

304. *In re* New Creek Bluebelt, Phase 3, 92 N.Y.S.3d at 295; *In re* New Creek Bluebelt, Phase 4, 997 N.Y.S.2d at 449; *In re* New Creek Bluebelt, Phase 4, 168 N.Y.S.3d at 507. The general rule in New York is that the compensation to be paid to a landowner is based on the price of the property when it is condemned. *In re* City of N.Y., 58 Misc.3d 1210(A), 2 (N.Y. Sup. Ct. 2018). Because this could lead to unfair results in cases where the condemning agency first decreased the value of the property dramatically through regulation, there is an exception

point, suitable for development, the regulations that designated them as wetlands had the effect of reducing their value by more than 80% (but by no more than 95%).[305] The outcome of these cases was that, given the properties' significant diminution in value along with the total prohibition on their development, there was "a reasonable probability" that the regulation, if the parcels had not been condemned, would have effected a taking.[306] As two of these court opinions clarified, given that the parcels were not rendered valueless, the conclusion that there was a reasonable probability of a taking result was based on the *Penn Central* multi-factor test and not *Lucas*'s per se rule.[307]

This analysis shows that courts may conclude, depending on the specifics of the case, that mandatory regulation that requires landowners to leave their properties—that are otherwise physically and legally suitable for development—in their natural state effects a taking.[308] If the same goal is accomplished through voluntary regulation, however, the agency is no longer unilaterally imposing a limitation on development but, instead, holding landowners to a commitment that they voluntarily chose to undertake. For this reason, except in very rare cases,[309] there is no risk that the enactment or implementation of voluntary regulation would result in a taking.[310]

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that requires the government agency to pay an increment above that value. *See id.* at 12. This requirement only applies, however, to instances where it is likely that the regulation in question would have been deemed to have effected a taking. *See id.*

305. *In re* New Creek Bluebelt, Phase 3, 92 N.Y.S.3d at 294, 296 ("[Z]oned for commercial development," the value of the property was reduced by approximately 95%.); *In re* New Creek Bluebelt, Phase 4, 997 N.Y.S.2d at 451 ("[T]he applicable . . . zoning . . . allows for attached and semi-attached one-and two- family dwellings," and the reduction in value was 82%.); *In re* New Creek Bluebelt, Phase 4, 168 N.Y.S.3d at 507, 509 ("[Z]oned for residential development," the property faced an 84% diminution in value.).

306. *In re* New Creek Bluebelt, Phase 3, 92 N.Y.S.3d at 296; *In re* New Creek Bluebelt, Phase 4, 997 N.Y.S.2d at 451; *In re* New Creek Bluebelt, Phase 4, 168 N.Y.S.3d at 509.

307. *In re* New Creek Bluebelt, Phase 4, 997 N.Y.S.2d at 450; *In re* New Creek Bluebelt, Phase 4, 168 N.Y.S.3d at 508–09.

308. To be sure, the lower the residual value of the parcel after the regulation goes into effect, the greater the likelihood that a court will conclude that compensation is constitutionally required, either under *Lucas* or *Penn Central*. *See supra* notes 295–298, 302 and accompanying text.

309. James E. Holloway & Donald C. Guy, *Policy Coordination and the Takings Clause: The Coordination of Natural Resource Programs Imposing Multiple Burdens on Farmers and Landowners*, 8 Fla. State J. Land Use & Env't L. 175, 178 (1992) (arguing that "through voluntary participation, [1990s farm legislation] coordination programs enforce land use and management restrictions that collectively impose burdens, and possibly effect a regulatory taking").

310. Daniel J. DePasquale, *A Pragmatic Proposition: Regionally Planned Coastal TDRs in Light of Rising Seas*, 48 Urb. Law. 179, 197 (2016) ("[A transferable development rights, or] TDR program, which is voluntary, or finds a way to fully compensate the landowner up front, will not have issues with constitutional takings compensation."); Richard T. Henderson, *Sink or Sell: Using Real Estate Purchase Options to Facilitate Coastal Retreat*, 71 Vand. L. Rev. 641, 673 (2018) ("Unlike [mandatory] regulatory retreat measures, consensual transactions are . . . beyond the reach of the Takings Clause."); Laura M. Padilla, *Does a Rising Tide Lift All Boats? Sea Level Rise, Land Use, and Property Rights*, 51 Tex. Env't L.J. 27, 101–03 (2021) (explaining that voluntary programs are not typically vulnerable to takings claims); Paul

b. Curtailment of Water Rights to Alleviate the Effects of Water Scarcity

There are a limited number of strategies to address the effects of water scarcity. Some involve increasing the supply of that resource, such as desalination.[311] Others focus on the demand side and include initiatives such as increasing the efficiency with which water is used or redirecting water from some use to others that are viewed as more socially valuable.[312] As noted earlier, improving efficiency can be accomplished by enforcing existing regulations.[313] However, this can be politically challenging and further complicated by practical limitations such as a lack of information and resources on the part of the water allocation agency.[314]

Demand-side initiatives that try to free up some water so that it can be used for more socially valuable uses can be accomplished in different ways. One is for the water allocation agency to transfer water rights either to itself or to a third party.[315] Alternatively, the agency may accomplish a similar goal indirectly by regulating the right, for example, by reducing the amount of the resource that a particular water right user can divert and use, so that the surplus is available for other uses.[316]

These two types of mandatory demand-side mechanisms—that is, forced transfers and the regulation of the right—can raise takings issues. This results, in part, from the fact that many types of water rights are considered property for takings purposes, which means that certain types of interferences with existing rights may trigger a duty to pay compensation.[317] Whether a taking exists or not

Merwin, *Caught Between Scalia and the Deep Blue Lake: The Takings Clause and Transferable Development Rights Programs*, 83 Minn. L. Rev. 815, 832–33 n.128 (1999) (suggesting that voluntary programs do not have takings implications).

311. Sean Krieg, *Transnational Desalination Agreements: A Panacea for a Parched Region or Better Taken with a Grain of Salt?*, 13 Ariz. J. Env't L. & Pol'y 61, 64 (2023) (discussing options for increasing Arizona's water supply).

312. Karen Greene, *Tapping the Last Oasis: Florida-Friendly Landscaping and Homeowners' Associations*, Fla. Bar J., May 2010, at 39; Harrison Tasoff, *Small Changes Can Yield Big Savings in Agricultural Water Use*, U.C. Santa Barbara: The Current (Mar. 25, 2024), https://perma.cc/ER4L-8XEU (analyzing a new study that finds increasing water use efficiency could save water while avoiding other costly farming practices); Julia Jacobo, *More Than Half of Water from Colorado River Used for Agriculture Industry, Report Finds*, ABCNews (Mar. 28, 2024), https://perma.cc/6HLW-W2JG (looking to how water allocation has and will change due to the lack of water).

313. *See supra* notes 276–281 and accompanying text.

314. *See id*.

315. Ruth Meinzen-Dick & Rajendra Pradhan, *Analyzing Water Rights, Multiple Uses, and Intersectoral Water Transfers*, *in* Liquid Relations 237, 245 (Dik Roth, Rutgerd Boelens & Margreet Zwarteveen eds., 2005).

316. *See, e.g.*, Sharon Megdal et al., *The Forgotten Sector: Arizona Water Law and the Environment,* 1 Ariz. J. Env't L. & Pol'y 243, 267–68 (2011); Duane Rudolph, *When Should Water Belong to the Public?,* 2019 Mich. State L. Rev. 1389, 1425 (2019).

317. Inaraja Vera, *Takings Property*, *supra* note 206, at 303, 307–09 (concluding that Western appropriative rights are property for takings purposes and that there is a good argument

in a particular case will depend on a number of factors, including the takings framework that the court employs to assess the merit of the claim.[318] For example, under a physical takings approach, any curtailment of a water right, no matter how small, may be sufficient to trigger the government's obligation to pay compensation whereas, under a regulatory takings rubric, smaller interferences with water rights are not likely to be viewed as takings.[319]

When it comes to forced water right transfers, courts are likely to view them as appropriations and, therefore, as one of the two types of government action—along with occupations—that should be examined under the more plaintiff-friendly physical takings rubric.[320] The Supreme Court decisions in *United States v. Gerlach Live Stock Co.* and *Dugan v. Rank* are illustrative.[321] In both cases, the Bureau of Reclamation built a dam that intercepted and redirected flows of the San Joaquin River that, up to that point in time, had been enjoyed by some downstream water users.[322] These decisions, which have been later viewed as consistent with the physical takings notion and framework, concluded that a taking had occurred.[323]

A regulation affecting water rights can also result in a taking.[324] This could occur if the water allocation agency were to cancel a perpetual water right without providing a transitional period, as this action would likely require compensation under both *Lucas* and *Penn Central*.[325] More limited curtailments of water rights, however, may also be deemed a taking if the court examines them under a physical takings framework.[326] In *Casitas Municipal Water District v. United States*, for example, the United States Court of Appeals for the Federal

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to reach the same conclusion with respect to Eastern riparian rights); Kiefer Armitage Stenseng, *The Legal Consequences of Climate Change and the Durability of U.S. Forest Service Ski Area Permits and Water Rights*, 25 U. Denver Water L. Rev. 67, 93 (2021).

318. Erin Ryan, *Privatization, Public Commons, and the Takingsification of Environmental Law*, 171 U. Pa. L. Rev. 617, 698 (2023); Inaraja Vera, *Instream Flows*, *supra* note 198, at 215–16.

319. *See id.*

320. John D. Echeverria, *What Is a Physical Taking?*, 54 U.C. Davis L. Rev. 731, 747 (2020) (explaining that the Supreme Court views appropriations and occupations as the two categories of physical takings and defining the latter as "an appropriation is defined as a government order or other action that . . . divests an owner of her interest in property and transfers ownership to the government or some third party designated by the government").

321. United States v. Gerlach Live Stock Co., 339 U.S. 725 (1950); Dugan v. Rank, 372 U.S. 609 (1963).

322. *Gerlach*, 339 U.S. at 727; *Dugan*, 372 U.S. at 610, 623.

323. *Gerlach*, 339 U.S. at 754–55; *Dugan*, 372 U.S. at 625; Casitas Mun. Water Dist. v. United States, 543 F.3d 1276, 1289 (Fed. Cir. 2008) (portraying these two cases as examples of physical takings).

324. William J. Shapiro, *Fifth Amendment Taking Claims Arising from Restriction on the Use and Diversion of Surface Water*, 39 Vt. L. Rev. 753, 753, 758 (2015).

325. Inaraja Vera, *Water Law Transitions*, *supra* note 228, at 534, 536; *see supra* notes 301–307 and accompanying text (explaining how reductions in value of the relevant property right exceeding 90% often amount to a taking).

326. *See supra* note 319 and accompanying text.

Circuit concluded that a mandate to return some of the water that had already been diverted to the stream through a fish ladder should be analyzed under the physical takings rubric.[327]

Regardless of whether there is an outright transfer or a significant modification or cancellation of a water right to generate a surplus, using mandatory regulation to accomplish the redistribution of water resources brings with it the risk that a court will conclude that a taking of private property has occurred and that compensation is due. A voluntary approach such as water banks, however, can be used to pursue this same goal. As explained in detail above, these markets are created to facilitate transactions between willing buyers and willing sellers of water rights.[328] Although no policy instrument is perfect, the voluntary nature of this strategy has the advantage of not requiring compensation.[329]

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In sum, mandatory regulation that courts view as "going too far" will require that the government pay compensation. This can occur, as explained above, with a total development ban to further conservation goals on private land or when water rights are forcibly transferred, canceled, or significantly curtailed.[330] Regardless of whether one focuses on these or other scenarios, with voluntary regulation, policymakers can pursue their objectives without risking takings liability. In some cases, such as with conservation on private land, the voluntary initiative will also require a significant expenditure in the form of economic incentives.[331] In other instances, however, such as with water banks, direct subsidies are not paid to participants, significantly lowering the cost of the program.[332] In any event, where mandatory regulation creates takings concerns, its voluntary counterpart provides an alternative path that, in addition to not presenting this same challenge, is also likely to be more politically viable and more predictable from an economic standpoint.[333]

2. Legal Challenges and Delay

Traditional government regulation is often challenged on the basis that the agency that issued it lacked sufficient authority to do so.[334] The claim may be

327. *Casitas*, 543 F.3d at 1296.
328. *See supra* note 195 and accompanying text.
329. *See supra* note 310 and accompanying text.
330. *See* Parts IV.C.4.a., IV.C.4.b.
331. *See supra* note 145 and accompanying text.
332. *See supra* note 201 and accompanying text (explaining that the incentive comes from organizing a market that will allow for beneficial transactions between private parties).
333. *See* Part IV.A; Rose-Ackerman, *supra* note 288, at 1701 (highlighting that government officials can be concerned about the possibility of takings claims "because they dislike uncertainty").
334. Thomas W. Merrill & Kristin E. Hickman, *Chevron's Domain*, 89 Geo. L.J. 833, 842 (2001); Sharon B. Jacobs, *Bypassing Federalism and the Administrative Law of Negawatts*, 100 Iowa

that the enabling statute is silent on the issue, which can often be explained by the lack of political will to act described in Part V.A.[335] In other cases, however, the statute may raise "problems of fit," as when agencies try to issue regulations to address a problem that could not be easily anticipated at the time the authorizing statute was enacted.[336] If the challenge is successful, the legislator or agency will have to restart the process anew, which will require a significant investment of time and resources. Even if courts uphold the regulation, its implementation may be delayed, especially if challengers request—and courts decide to grant—a preliminary injunction. In either case, voluntary approaches can provide a less contentious path to tackle the particular underlying policy issues that policymakers need to address, thereby saving considerable time and effort.

The example discussed in the introduction relating to EPA's authority to regulate greenhouse gas emissions from power plants provides an illustration of a successful challenge.[337] The Obama Administration released the Clean Power Plan ("CPP" or "Plan") in 2015 with the goal of reducing carbon pollution in the electric sector.[338] The CPP relied on the authority provided by section 111(d) of the Clean Air Act, which requires EPA to determine "emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction."[339] The coalition that challenged the CPP argued that section 111(d), which was enacted over four decades earlier,[340] did not provide EPA the authority to set emission standards based on some of the pollution-reduction strategies contemplated in the Plan—mainly switching generation from high-emission sources to low-emission or zero-emission sources.[341] The United States Supreme Court

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L. Rev. 885, 939 (2015).

335. Aaron Saiger, *Agencies' Obligation to Interpret the Statute*, 69 Vand. L. Rev. 1231, 1275 (2016); *see supra* Part IV.A; Jack Paul DeSario, *The Legal and Political Relationship Between Congress and Bureaucracy: Quasi-Legislation and Democratic Accountability*, 6 J. Econ. & Pol. 1, 8 ("The Supreme Court, in *Chevron* recognized that vague statutes are often the result of political compromise or technical uncertainty."); *Constitutional Law*, 129 Harv. L. Rev. 181, 307 (2015) (providing an example of a statute that was "shaped by political compromise" and was excessively vague).

336. Jody Freeman & David B. Spence, *Old Statutes, New Problems*, 163 U. Pa. L. Rev. 1, 20 (2014).

337. *See supra* note 4 and accompanying text.

338. *Fact Sheet: President Obama to Announce Historic Carbon Pollution Standards for Power Plants*, The White House (Aug. 3, 2015), https://perma.cc/MG52-BMDP.

339. 42 U.S.C. §7411(a)(1), (d); Richard L. Revesz, Denise A. Grab & Jack Lienke, *Familiar Territory: A Survey of Legal Precedents for the Clean Power Plan*, 46 Env't L. Rep. News & Analysis 10190, 10190 (2016).

340. Clean Air Amendments of 1970, 91 Pub. L. No. 604, 84 Stat. 1676 (current version at 42 U.S.C. §§ 7401 et seq.).

341. *See* Revesz, Grab & Lienke, *supra* note 339, at 10190.

granted a stay early in 2016 and ultimately agreed with the argument that EPA lacked the necessary authority to issue the regulation.[342]

Given the uncertainty surrounding the scope of EPA's authority, an alternative strategy was put into motion in Congress before the Supreme Court ruling, that is, the Inflation Reduction Act (IRA), which has been described as "[t]he Biden administration's flagship climate legislation."[343] As noted earlier, one of the main advantages of the IRA is that it relies on voluntary mechanisms to reduce emissions, which significantly reduces the incentives on the part of industry groups and trade associations to challenge it in court.[344]

Voluntary strategies can also help agencies achieve their goals more quickly. The following example does not fit squarely within the definition of voluntary regulation provided above, but offers some important lessons that are also applicable to other forms of persuasion-based approaches.[345] In 2016, after negotiations with the National Highway Traffic Safety Administration (NHTSA) and other stakeholders, automakers representing over 99% of the market agreed to include emergency braking technology in newly manufactured cars no later than 2022.[346] NHTSA officials estimated that, if these car manufacturers had not agreed to voluntarily install this safety feature by 2022, the agency would not have been able to reach that same outcome through mandatory regulation—which requires a lengthy multi-step process—until three years later.[347] While bypassing the rulemaking or legislative process may not be feasible in many cases, this example shows that obtaining voluntary commitments from a particular sector can allow agencies to reach their goals considerably faster than with traditional mandatory regulation.[348]

342. West Virginia v. EPA, 597 U.S. 697, 734–35 (2022). There were a number of applications for a stay that were granted. Lisa Heinzerling, *The Supreme Court's Clean-Power Grab*, 28 Geo. Env't L. Rev. 425, 428 (2016); *see, e.g.*, West Virginia v. EPA, 577 U.S. 1126 (2016) (order granting stay).

343. Chad P. Bown, *How the United States Solved South Korea's Problems with Electric Vehicle Subsidies under the Inflation Reduction Act*, 58 J. World Trade 1, 1 (2024).

344. *See supra* note 5 and accompanying text. There have been, however, some challenges questioning the constitutionality of the IRA filed by pharmaceutical companies. *See, e.g.*, AstraZeneca Pharms. LP v. Becerra, 719 F.Supp.3d 377, 380 (D. Del. 2024) (unsuccessful challenge); Boehringer Ingelheim Pharms., Inc. v. U.S. Dep't of Health & Hum. Servs., No. 3:23-CV-01103 (MPS), 2024 WL 3292657, slip op. at *1 (D. Conn. July 3, 2024) (unsuccessful challenge).

345. *See supra* Part II.B.

346. *U.S. DOT and IIHS Announce Historic Commitment of 20 Automakers to Make Automatic Emergency Braking Standard on New Vehicles*, Nat'l Highway Transp. Safety Act (Mar. 17, 2016), https://perma.cc/V3V6-XMDX.

347. *See id*.

348. *See* Coglianese & Nash, *supra* note 16, at 239 ("[G]overnments can also often create voluntary programs through administrative action, foregoing the lengthy and contentious process of legislative review and approval.").

V. Realizing the Full Potential of Voluntary Regulation

This part identifies two broad areas where the value of voluntary regulation has been underestimated. It first challenges the notion that voluntary programs are seldom useful in the absence of a robust backdrop of mandatory regulation and then explains that policymakers and society at large would benefit from a more expansive use of voluntary regulation, specifically, as a relief mechanism in legal transitions.

A. The Value of Standalone Voluntary Regulation

To adequately assess the role of voluntary regulation, it is critical to understand how it fits within any existing mandatory regulation framework. One way of describing the possible interactions between both forms of regulation is to focus on the following two categories.

First, one set of voluntary initiatives operates against a backdrop of mandatory regulation, as in the case of voluntary cleanup programs. As described in Part III.C, federal and state statutes impose liability on certain parties connected to contaminated sites but, given some of the challenges associated with the enforcement of these statutes, policymakers have created voluntary cleanup programs to further incentivize landowners to conduct government-supervised cleanups.[349] Relatedly, some voluntary initiatives have tried to persuade the regulated community to improve on the standards contemplated in mandatory regulation.[350]

Second, another category of voluntary programs consists of those that are also part of a complex regulatory framework but are essentially addressing gaps in mandatory regulation. The voluntary programs discussed in Part III.A relating to private land conservation are an example of this standalone voluntary regulation.

Many scholars have highlighted the importance of using voluntary regulation either where mandatory regulation is already present or where there is a clear threat that mandatory regulation will be adopted in the near future should the voluntary approach not succeed.[351] There are two main reasons, however,

349. *See supra* note 231 and accompanying text.

350. *See generally* Seema Arora & Timothy N. Cason, *Why Do Firms Volunteer to Exceed Environmental Regulations? Understanding Participation in EPA's 33/50 Program*, 72 Land Econ. 413 (1996).

351. Allen Blackman et al., *Voluntary Environmental Agreements in Developing Countries: The Colombian Experience*, 46 Pol'y Scis. 335, 336 (2013) ("The implication is that voluntary regulatory instruments are unlikely to perform well in countries where mandatory regulation is weak.") (citing Madhu Khanna, *Economic Analysis of Non-Mandatory Approaches to Environmental Protection*, 15 J. Econ. Surv. 291, 318–19 (2001) and others); David M. McEvoy & John K. Stranlund, *Costly Enforcement of Voluntary Environmental Agreements*, 47 Env't Res. Econ. 45, 47 n.3 (2010) ("The main conclusion of these studies is that voluntary approaches

why this argument does not lead to the conclusion that a background—or future credible threat—of mandatory regulation is a prerequisite for voluntary regulation to be desirable: (i) voluntary regulation is particularly valuable when there is no realistic mandatory alternative and, (ii) in some instances, the coexistence of mandatory and voluntary regulation may even lead to suboptimal outcomes.

1. Standalone Voluntary Regulation Is Particularly Valuable

As discussed in detail in Part IV, policymakers should consider using voluntary regulation to tackle policy issues that cannot be effectively addressed through mandatory regulation, including where the latter cannot be enacted due to political resistance or when doing so is viewed as undesirable because such regulation would be expensive to adopt as it would trigger a constitutionally mandated obligation to pay compensation.[352] Therefore, while, with the caveats noted below, it may be optimal to have a framework that includes both mandatory and voluntary regulation, this is not always possible. For instance, in the types of scenarios discussed in Parts IV.A and C, only voluntary initiatives are available by definition.

For this reason, the relevant question is actually whether, in these instances, it is preferable to have voluntary regulation or no regulation at all. Stated differently, even if voluntary regulation is the only feasible option to address a specific problem, it is important to acknowledge the possibility that its adoption could still be socially undesirable. The following two arguments merit consideration: first, voluntary regulation could result in a net loss in social welfare and, second, it could prevent the implementation of far more effective mandatory regulation in the future.

a. The Costs and Benefits of Voluntary Regulation

Starting with the first argument, it is possible that the costs of a particular voluntary program could be greater than its benefits. Determining whether that is the case or not can be challenging. Quantifying the costs and benefits

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are most likely to meet environmental targets when there is a strong background threat of costly mandatory regulation."); Enzler, *supra* note 113, at 982 ("[T]here must be real consequences for the failure to participate in the voluntary program in the form of a robust regulatory program."); Lily Hsueh, Private Regulation on the Environment: Bilateral Voluntary Agreements in U.S. Toxic Chemical Policy 13–14 (2012) (highlighting the importance of the government "casting a shadow of public law with the credible threat of future regulation"); Richards, *supra* note 60, at 252 (With certain voluntary programs, "companies volunteer in the 'shadow of regulation.' That is, there is an implicit threat by the government to use mandates if industry does not produce suitable environmental results voluntarily.").

352. *See supra* Parts IV.A, C. The situation discussed in Part IV.B, where enforcing mandatory regulation that has been adopted will be a challenging proposition, is more relevant to the discussion in Part V.A.2.

of regulation is notoriously complicated, and doing so before the program is implemented entails even greater difficulty.[353] While an analysis of the costs and benefits of voluntary regulation should focus on a specific program, there are some general observations worth making.

Focusing on the cost part of the equation, the public policy literature has generally noted that voluntary programs tend to have relatively low costs.[354] As with other forms of regulation, however, there are different factors to consider when it comes to costs. First, given that these programs are voluntary, it is reasonable to assume, as noted earlier, that they will not impose significant costs on participants or that any expenses they incur will be offset by the incentives the program provides.[355] Second, there does not appear to be an obvious reason why transaction costs—which typically include enactment, design and implementation, monitoring, and enforcement—would be substantially higher than with other forms of regulation.[356] If the number of participants in the program is not high, monitoring and enforcement should not be particularly expensive. Last, the incentives to persuade participants to join the program constitute a critical category of costs to consider.[357] Voluntary regulation that relies heavily on monetary incentives and has a large enrollment base will require significant expenditures, at least in absolute terms. The average yearly funding for EQIP, for example, has exceeded $1.8 billion.[358] On the other hand, voluntary programs that include non-monetary incentives can have a much lower price tag.[359]

Determining the benefits of voluntary regulation can also be extremely difficult. Doing so may require assigning an economic value to items such as increased environmental quality or the number of lives that the program is expected to save, which can be a very contentious task.[360] In some cases, it will be clear that the benefits of the program are slim, such as when enrollment in the program—which is a prerequisite for its success—is extremely low or

353. *See infra* note 360 and accompanying text.

354. *See* Walter A. Rosenbaum, Environmental Politics and Policy 161 (2019); Coglianese & Nash, *supra* note 16, at 239.

355. *See supra* note 263 and accompanying text; Coglianese & Nash, *supra* note 16, at 239.

356. Laura M. J. McCann, *Transaction Costs Considerations in Instrument Choice, Design, and Implementation*, *in*, Policy Instruments in Environmental Law 127, 130 (Kenneth R. Richards & Josephine van Zeben eds., 2020).

357. *See supra* notes 106–107 and accompanying text.

358. Nat. Res. Conservation Serv., Regulatory Impact Analysis for the Environmental Quality Incentives Program (EQIP) 5 (2020), https://perma.cc/VXF3-Q8MD.

359. *See supra* note 204 and accompanying text.

360. Cass R. Sunstein, *The Limits of Quantification*, 102 Calif. L. Rev. 1369, 1371 (2014); Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 Colum. L. Rev. 941, 943–44 (1999) ("[I]n determining whether a particular regulation can be justified on cost-benefit grounds, the central questions revolve around the value assigned to the lives that would be saved by the program."); Richard L. Revesz, *Quantifying Regulatory Benefits*, 102 Calif. L. Rev. 1423, 1426 (2014) (noting the difficulties of quantifying some of the benefits of regulation); Rosenbaum, *supra* note 354, at 146–47.

nonexistent.[361] The same is true when additionality is lacking, that is, when despite the fact that the program has participants, these individuals or entities are clearly not changing their behavior in response to it but are instead being rewarded for actions they would have taken even if the program did not exist.[362]

It is important, however, not to undervalue the benefits of this form of regulation, as can occur especially in two situations. First, as Zhou, Bi, and Segerson have explained, empirical assessments of voluntary initiatives can underestimate the magnitude of the program's benefits by not considering spillovers, that is, the effect of the program not only on participants but also on certain types of non-participants.[363] These authors noted that environmental programs that "seek to both spur innovation and disseminate information about abatement technologies widely throughout the industry" can lead non-participants to use these technologies and, as a result, reduce their emissions.[364] Second, a narrow view of what a voluntary program intends to accomplish can lead to a failure to account for the full suite of benefits it can provide. For example, while voluntary cleanup programs typically attempt to incentivize the cleanup of contaminated sites, the mere participation of a developer in one of these programs can be desirable, regardless of whether the participant was already planning to conduct the remediation. This is because a cleanup process conducted in secrecy, which is more likely to occur if the developer had not enrolled in the VCP, entails greater risks that substandard remediation practices will be deployed than if it occurs under the supervision of a government agency and subject to its requirements.[365]

In short, there is no reason to believe that the costs of voluntary regulation will generally be greater than its benefits. Although a voluntary program with generous monetary incentives can be expensive, these initiatives do not entail particularly steep transaction costs. Moreover, they can deliver a wide range of benefits, many of which are routinely undervalued in empirical assessments.

b. The Voluntary Regulation Suppressing Future Mandatory Regulation

The second argument for why voluntary programs could be viewed as a less desirable alternative than a complete lack of regulation arises out of the claim that these initiatives could inhibit the adoption of mandatory regulation in the

361. *See* Borck & Coglianese, *supra* note 1, at 310, and accompanying text (explaining that participation in voluntary programs is a requisite for success, even if the two are not correlative).

362. *See supra* notes 122–124 and accompanying text.

363. Rong Zhou et al., *Evaluating Voluntary Environmental Programs with Spillover Effects*, 7 J. Ass'n Env't Res. Econ. 145, 176 (2019); *see also* Thomas P. Lyon & John W. Maxwell, *Environmental Public Voluntary Programs Reconsidered*, 35 Pol'y Stud. J. 723, 745 (2007) (highlighting that existing econometric models have omitted the impacts that voluntary programs had on non-participants).

364. *See id.*

365. Mark McIntyre, *How PlaNYC Will Facilitate Brownfield Redevelopment,* 54 N.Y.L. Sch. L. Rev. 431, 436 (2010).

future.[366] When policymakers implement a voluntary program, the argument goes, this creates the perception that the underlying problem is being addressed, thereby reducing the pressure to both assess its performance and replace it with other forms of regulation that are potentially more effective.[367]

Even if this hypothesis were found to be accurate in some cases, it is important to note that, under some circumstances, voluntary programs can sometimes actually increase the likelihood of future adoption of mandatory regulation. Voluntary programs that seek to incentivize the development and implementation of technology or socially desirable practices may reduce the resistance to mandatory regulation once these technologies or practices have gained acceptance in the relevant sectors and potentially change norms in these same sectors.[368] For example, the Inflation Reduction Act (IRA) includes several incentive programs—e.g., those seeking to improve and incentivize the use of carbon capture and storage—that were expected to lead to mandatory regulation in the future.[369] EPA has more recently adopted a mandatory rule dealing with the greenhouse gas emissions of coal-fired power plants that relies heavily on the widespread use of carbon capture and storage.[370] Regardless of whether the IRA was a necessary preliminary step or not, this sequence of events provides an example of a situation in which the adoption of voluntary regulation does not prevent the later implementation of a mandatory rule.[371] There are other examples of areas where mandatory regulation followed a voluntary program, such as with recent EPA mandatory regulations addressing PFAS—i.e., a group of synthetic chemicals—years after it adopted a voluntary program addressing a

366. *See supra* notes 133–134 and accompanying text.

367. Coglianese & Nash, *supra* note 16, at 240.

368. Williams, *supra* note 137, at 120 ("[Voluntary programs] may make the transition to a regulatory program for agriculture more politically acceptable."); Hatch, *supra* note 71, at 9 (explaining that "second-best solutions . . . may help realign interests and generate much needed political support for policy initiatives"); Daniel Matisoff, *Sources of Specification Errors in the Assessment of Voluntary Environmental Programs: Understanding Program Impacts*, 48 Pol'y Scis. 109, 116 (2015) ("The more important effect of [voluntary environmental policy, or] VEP can be to change the social norms of firm behavior to improve responsiveness to environmental concerns. . . .").

369. *Energy Policy Now: Why the IRA's Carbon Capture Tax Credit Could Increase Greenhouse Emissions*, Kleinman Ctr. for Energy Pol'y (Dec. 5, 2023), https://perma.cc/3RRB-R8X5; Nicholas S. Bryner, *The Once and Future Clean Air Act: Impacts of the Inflation Reduction Act on EPA's Regulatory Authority*, 65 B.C. L. Rev. 1, 44–46 (2024).

370. *Biden-Harris Administration Finalizes Suite of Standards to Reduce Pollution from Fossil Fuel-Fired Power Plants*, EPA (Apr. 25, 2024), https://perma.cc/QP54-BKQM. Whether this rule will remain in place during the second Trump Administration, however, is a different issue and one that is unclear as of the date of this writing.

371. This credit meets the narrow definition of voluntary regulation provided above as this program is overseen both by the Internal Revenue Service and the Department of Energy. *See* 26 U.S.C. § 45Q(f)5.B.(i); *Instructions for Form 8933*, IRS (2024), https://perma.cc/3DKB-RSEA (explaining that a critical part of the process to claim the credit, that is, the approval of the lifecycle greenhouse gas emissions "is subject to a technical review by the DOE").

subset of these substances, that is, the PFOA Stewardship Program.[372] Also, the manufacture, importation, and use of certain refrigerants was banned in 2010 after EPA's voluntary program—GreenChill—had been in place since 2007 to achieve similar goals.[373]

In sum, voluntary regulation can be a valuable tool to address social problems for which the adoption of mandatory regulation is not viable. While having both approaches working together may in theory be a better option in many instances, voluntary programs will typically be more desirable than having no regulation at all.

2. The Downsides of Mandatory Regulation Operating in the Background

While a backdrop of mandatory regulation may be helpful in many instances, it may be of limited consequence in some cases and even deleterious in others. As explained earlier, voluntary cleanup programs are necessary to deal with the limited information that many state environmental agencies have about the locations of contaminated sites.[374] To be sure, without that information, enforcement efforts are significantly jeopardized. Larger sites with a long track record of industrial activity are more likely to draw the attention of government officials, while smaller properties where the presence of contamination seems less plausible can escape enforcement action far more easily.[375] In the latter case, given the low risk of enforcement, the existence of mandatory regulation should not be expected to have a significant effect on whether a landowner who is not interested in redeveloping the property decides to participate in the voluntary program or not.[376]

Turning to situations where the prospect of mandatory regulation could actually lead to worse outcomes, some authors have highlighted that "the threat of regulation can affect the willingness of landowners to participate in voluntary conservation agreements."[377] An important part of the problem is that landowners fear that, by participating in voluntary programs, they may be providing

372. *Fact Sheet: 2010/2015 PFOA Stewardship Program*, EPA (Mar. 18, 2024), https://perma.cc/9SHC-4NQJ; *Key EPA Actions to Address PFAS*, EPA (Jan. 24, 2025), https://perma.cc/CWY3-QEDU.

373. *GreenChill Regulatory Context*, EPA (July 17, 2024), https://perma.cc/HH2Q-VFT4; *GreenChill Program*, EPA (Dec. 20, 2024), https://perma.cc/ZZ96-VEME.

374. Amstrong, *supra* note 238.

375. *See id.* (explaining the challenges associated with dealing with smaller sites).

376. Allen Blackman, *Can Voluntary Environmental Regulation Work in Developing Countries? Lessons from Case Studies*, 36 Pol'y Stud. J. 119, 120 (2008) (noting that when the pressure exerted by mandatory regulation is low, the incentive to participate in voluntary programs decreases); Richards, *supra* note 60, at 252 (tying the willingness to participate in voluntary programs to the threat that the government will enforce mandatory regulation).

377. Jonathan H. Adler, *Money or Nothing: The Adverse Environmental Consequences of Uncompensated Law Use Controls*, B.C. L. Rev. 301, 324 (2008) (quoting a statement to that effect by a former President of the Texas Farm Bureau).

information about their properties to an agency that could later use it to impose and enforce mandatory regulation.[378] These potential downsides of mandatory regulation further call into question the claim that standalone voluntary programs are of very limited value.

B. Voluntary Regulation in Legal Transitions

Voluntary regulation can be particularly useful in the context of legal transitions, that is, when there are changes in statutes, regulations, or even judge-made law.[379] When the legal status quo is modified, some individuals or groups are likely to benefit from the change—i.e., transition winners—while others are likely to see their position worsened—i.e., transition losers.[380] In order to eliminate or soften the impact of the legal reform on the latter group, policymakers often employ a series of tools that are collectively referred to as transition relief.[381]

Three forms of transition relief worth highlighting are legacy clauses (also known as "grandfathering"), delayed implementation, and compensation. It is common for policymakers to use legacy clauses that partially or completely shield those who were already engaging in a particular activity from a new rule that would impose a significant burden on that group of individuals.[382] For example, the Clean Air Act generally treats existing activities more leniently than those that have not yet started by the time a new regulation goes into effect.[383] With delayed implementation, the effect of the reform is postponed for a certain period of time.[384] Local ordinances often use this approach when banning certain uses from specific areas by allowing existing activities that are incompatible with the new regulation to remain in place for a transitional period of, for example, 5, 10, or 20 years.[385] Compensation as transition relief, on the

378. *See id.* at 332.
379. Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 Harv. L. Rev. 509, 511 (1986).
380. Louis Kaplow, *Transition Policy: A Conceptual Framework*, 13 J. Contemp. Legal Issues 161, 174 (2003).
381. Jonathan S. Masur & Jonathan R. Nash, *The Institutional Dynamics of Transition Relief*, 85 N.Y.U. L. Rev. 391, 393 (2010).
382. *Grandfather Clause*, Black's Law Dictionary (11th ed. 2019) ("A provision that creates an exemption from the law's effect for something that existed before the law's effective date. . . .").
383. Sylwia Bialek et al., Still your Grandfather's Boiler: Estimating the Effects of the Clean Air Act's Grandfathering Provisions 2 (Dec. 2022) (unpublished manuscript), https://perma.cc/8LVX-L496.
384. *See* Inaraja Vera, *Water Law Transitions*, *supra* note 228, at 516.
385. Christopher Serkin, *Existing Uses and the Limits of Land Use Regulations*, 84 N.Y.U. L. Rev. 1222, 1236 (2009).

other hand, seeks to hold transition losers unharmed from the burdens and costs that the reform imposes on them, typically through a monetary payment.[386]

Mechanisms such as legacy clauses or delayed implementation, however, have as their main downside that they reduce the overall effectiveness of the reform. With legacy clauses, the new and presumably better rule will have a limited scope because it exempts an entire subset of parties from its application. With delayed implementation, a significantly better option as I explain elsewhere,[387] the reform will not reach its full potential until the end of the transitional period because only then will the legal change take effect.[388] Given that policymakers often need to resort to transition relief in order to garner enough political support for new regulations as well as to avoid takings claims,[389] it is critical to find ways to deal with its downsides.

Voluntary regulation can play a key role in this context and should be used more frequently to alleviate the issues associated with these forms of transition relief. While the literature addressing the usefulness of voluntary initiatives in this fashion is extremely scant, this approach has been used in some cases: for example, in the air pollution context. Mandatory efforts to limit the emissions associated with diesel motor vehicles in the United States have focused on new engines and vehicles, that is, they have not addressed those already in use.[390] Given the longevity of diesel engines, the downside of this approach is these regulations do not reach the millions of vehicles that were sold before a new standard went into effect.[391] This gap created an opportunity to tackle the emissions of these existing vehicles through the use of voluntary regulation. To such an end, Congress authorized EPA to implement various types of voluntary programs that relied on monetary incentives—such as the State Grant Program and the Tribal Grant program—that funded initiatives to reduce diesel

386. Todd Aagaard, *Compensating Regulatory Losers*, 2024 U. Ill. L. Rev. (forthcoming 2025) ("When regulatory impacts are perceived to impose unfair burdens, policymakers and scholars alike have long considered whether to compensate those bearing the regulatory costs as a means of mitigating the inequities.").

387. Inaraja Vera, *Water Law Transitions*, *supra* note 228, at 508–40.

388. Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 Nw. U. L. Rev. 1581, 1626 (2011); *See* Kaplow, *supra* note 379, at 590 ("The costs and benefits of a one-shot reform also are reduced because they will not accrue until the future.").

389. Saul Levmore, *Changes, Anticipations, and Reparations*, 99 Colum. L. Rev. 1657, 1665–66 (1999); David Dana & Susan P. Koniak, *Bargaining in the Shadow of Democracy*, 148 U. Pa. L. Rev. 473, 483 n.24 (1999); Richard L. Revesz et al., Environmental Law and Policy 470 (5th ed. 2024).

390. Bruce R. Huber, In With the Old, Out With the New: Transition Policy in Environmental Law 43 (2010) (Ph.D. dissertation, University of California, Berkeley) (ProQuest).

391. Richard K. Lattanzio & Angela C. Jones, Cong. Rsch. Serv., IF11331, The Diesel Emissions Reduction Act (DERA) Program 1–2 (2024), https://perma.cc/KZ5R-JH5P. The scope of a new standard is based on the vehicle's model year. *Id.* For example, the 2023 standards for heavy duty highway vehicles will apply to 2027 and later model years. *Id.*

emissions to protect human health and increase air quality.[392] In a 2022 report, the agency estimated that, between fiscal years 2008 and 2018, the program led to diesel fuel savings of 520 million gallons, which translated into the following significant reductions in pollutants: 491,000 tons of nitrogen oxides; 16,800 tons of particulate matter; 65,600 tons of carbon monoxide; and 5,307,100 tons of carbon dioxide.[393]

What these examples show is that voluntary programs can be valuable to address the downsides of transition relief. In the case of diesel engine emissions, voluntary regulation allowed EPA to achieve a reduction in emissions from vehicles that were not covered by mandatory regulation. In many other contexts, voluntary regulation can offer similar benefits. For example, it can be used to incentivize the adoption of more stringent pollution standards in activities that enjoy the exemptions provided by legacy clauses. Voluntary regulation can also be useful to accelerate the implementation of reforms that are subject to delayed implementation, such as those that may be undertaken to tackle the effects of climate change on the availability and use of water resources. Therefore, policymakers should consider making a significantly broader use of voluntary regulation in these contexts.

Conclusion

Voluntary regulation is becoming an increasingly vital part of the regulatory landscape. In areas such as environmental protection, where Congressional inaction limits the passage of new legislation, voluntary initiatives are often one of the few strategies available to pursue innovation and progress. As programs based on this approach receive more and more attention, the urgency to develop a more comprehensive theoretical framework that provides a deeper understanding of certain key aspects of voluntary regulation is also growing.

This Article fills an important gap in the literature by identifying the instances in which policymakers should seriously consider using voluntary regulation. First, this form of regulation is particularly useful when mandatory regulation cannot be realistically adopted due to insufficient political support. In these cases, a voluntary approach is likely to be a far superior alternative to having no regulation at all. Second, when mandatory regulation cannot be effectively enforced as a result of limited information, its voluntary counterpart can be an extremely valuable addition. Third, when mandatory approaches are not cost-effective because it would require payment of compensation under the takings clause or lead to unnecessary delays, policymakers can avoid these downsides by using voluntary regulation instead. Moreover, this Article has explained

392. Diesel Emissions Reduction Act of 2010, Pub. L. No. 111-364, 124 Stat. 4056 (2011); EPA, Diesel Emissions Reduction Act (DERA): Fifth Report to Congress 4 (2022), https://perma.cc/9ZXW-7A64.

393. *Id.* at 5.

why voluntary regulation can be valuable even if it is not working in tandem with mandatory regulation and why this policy tool can be especially useful in the context of legal transitions.