

A SUCCINCT, HOLISTIC LOOK AT CLIMATE CHANGE LEGISLATION*

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I. INTRODUCTION

Time is not costless in the context of global warming legislation, and so the longer it takes society to address global warming, the harder it will be to do so.¹ Nevertheless, in 2010 Richard J. Lazarus, a professor at Harvard Law School, declared that “political pundits of every stripe are writing climate change legislation’s obituary.”² The United States has already fallen behind other established democracies in the European Union in addressing this issue.³ Climate change is an important problem that affects both our natural resources and water supply,⁴ so why has it been so difficult to address?

Section II of this Article explores some basics of climate change legislation, in order to establish a foundation. Section III examines some of the most important federal and state climate change laws. Section IV discusses litigation as a potential alternative to addressing climate change through state and federal legislation. Section V explores several major problems associated with climate change, and Section VI proposes solutions for each. Section VII provides several recommendations for drafting lasting, effective climate change and for the substance of said legislation. The scope

* The author acknowledges that the scope of this article may seem problematic at first glance. How can one paper provide a succinct and holistic look at climate change legislation? Climate change is a complex, multifarious problem, and addressing only one facet leaves any discussion incomplete. However, there is only so much space allotted for a typical law review article. This Article is intended not only to educate those unfamiliar with many problems facing proponents of climate change legislation, but also to offer solutions to those problems. In order to do that, this Article examines the manner in which past legislation has successfully been implemented as well as the goals of well-known climate change advocates. Each piece was included to illuminate part of the debate surrounding climate change, in order to shed light on this topic as a whole. Finally, the author would like to note that this Article was not written in order to endorse any one particular viewpoint with respect to climate change, but only to clarify often-cited problems and solutions in passing climate change legislation.

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1. Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1160 (2009).
2. Richard J. Lazarus, *Climate Change Law In and Over Time*, 2 SAN DIEGO J. CLIMATE & ENERGY L. 29, 30 (2010).
3. Lazarus, *supra* note 1, at 1190.
4. Robin K. Craig, “Stationarity is Dead”—*Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 15–16 (2010).

of this Article is intentionally broad in order to address climate change legislation holistically.

II. AN OVERVIEW OF CLIMATE CHANGE LEGISLATION

Climate change legislation generally falls into two broad categories: mitigation and adaptation.⁵ Mitigation legislation seeks to reduce the emission of greenhouse gases that contribute to climate change.⁶ Mitigation strategies primarily affect transportation and electric industries, but may affect others as well, including manufacturing.⁷ Adaptation legislation responds to the effects of climate change in order to ensure the continued viability of human and animal life, in case efforts to mitigate climate change are unsuccessful.⁸

David L. Markell, a professor at Florida State University College of Law, notes that any new climate legislation must include efforts to preserve life for humans and animals in the face of climate change.⁹ Addressing this problem, however, requires asking certain normative questions: *which* components of climate change should be addressed, and *how*?¹⁰ Any remedy would be at least partially inadequate, because climate change affects the world in ways that humans cannot completely mitigate.¹¹ Robin Craig, a professor at S.J. Quinney College of Law, hypothesized that climate change's impact on the globe has already gone too far for humans to control much of the environment's reactions; therefore, passing adaptation legislation has increased in importance.¹² How to implement adaptation climate change legislation will perhaps become more clear, through the process of trial and error, once more legislation is passed containing both adaptation and mitigation strategies. It is also possible that environmentalists in Congress could use different approaches to address this problem as "bargaining chips" in the negotiation phase of legislation. The private sector might be reluctant to pass certain types of remedies for climate change, but more willing to pass others.¹³ Whatever the future of climate change legislation, those who draft

5. David L. Markell, *Climate Change and the Roles of Land Use and Energy Law: An Introduction*, 27 J. LAND USE & ENVTL. L. 231 (2012).

6. *Id.* at 231–32.

7. J.R. DeShazo & Jody Freeman, *Timing and Form of Federal Regulation: The Case of Climate Change*, 155 U. PA. L. REV. 1499, 1502 (2007).

8. Markell, *supra* note 5, at 234.

9. *Id.* at 232.

10. *Id.* at 235.

11. Craig, *supra* note 4, at 51.

12. *Id.*

13. For example, the private sector has looked favorably upon emissions trading. See *Why Emissions Trading Is More Effective than Control and Command*, INT'L EMISSIONS TRADING ASS'N, http://www.ieta.org/index.php?option=com_content&view=article&id=418:why-emissions-trading-is-more-effective-than-command-and-control&catid=54:3-minute-briefing&Itemid=135

climate change legislation should consider potential alternatives when addressing the causes and effects of climate change.

III. LEGISLATIVE EFFORTS

Both the federal government and state governments have enacted climate change legislation. Climate change legislation is unique because the most significant changes happen from the “bottom up,” since state legislation can spur change at the federal level.¹⁴ However, state action alone is unlikely to sufficiently address problems with climate change.¹⁵

A. Federal Legislative Efforts

Climate change law is a rapidly changing field, and only recently has the United States Congress enacted legislation to abate it.¹⁶ One of the oldest debates in climate change legislation deals with whether a federal regulatory “floor” is necessary.¹⁷ There are two reasons generally proffered for why a federal floor might be needed.¹⁸ First, allowing each state to decide whether to set their own standards could create a national “race to the bottom,” which would provide standards for greenhouse gas emissions far below those of other countries.¹⁹ Second, the migration of pollution from one state to another might provide motivation for the government to address climate change nationally, as this problem is unlikely to be solved on the state level alone.²⁰ Though these two theories help explain why there is a national push for climate change legislation, this is only part of the debate. As discussed below, regulation at the state level is unlikely to cover a large enough area to make a significant difference in the levels of emissions, and there is not a sufficient mechanism to enact regulatory environmental change at the international level. Therefore, since federal climate change legislation is likely the best available option for climate change activists, it is helpful to review previous federal legislation.

(last visited Mar. 12, 2015) (“[C]ap-and-trade provides economic incentives for private sector actors to engage in mitigation, thereby making it the most efficient method of achieving an environmental target.”).

14. *Id.* at 1020.

15. Alice Kaswan, *A Cooperative Federalism Proposal for Climate Change Legislation: The Value of State Autonomy in a Federal System*, 85 *DENV. U. L. REV.* 791, 795 (2008).

16. John C. Dernbach & Seema Kakade, *Climate Change Law: An Introduction*, 29 *ENERGY L.J.* 1, 2 (2008).

17. DeShazo & Freeman, *supra* note 7, at 1503.

18. *Id.*

19. *Id.*

20. *Id.* at 1503–04.

The 1970s saw a wave of wide-ranging pollution control legislation.²¹ For example, in 1975, the Department of Transportation set standards for automobile emissions, in accordance with the Energy Policy and Conservation Act.²² In 2007, the Energy Independence and Security Act significantly changed the standards for automobile emissions.²³ Under these standards, both passenger automobiles and light trucks manufactured in the United States must achieve an average of thirty-five miles per gallon.²⁴

The National Appliance Energy Conservation Act of 1987 established efficiency standards for appliances and other equipment and gave the Department of Energy the authority to set new standards for energy compliance for several consumer products.²⁵ These standards reduced fossil fuel emissions by 1.7% in 2000, and could triple those benefits by 2020.²⁶

In 1992, about half of the states adopted the most current regulations, concerning emissions from buildings, under the Energy Policy Act, making buildings more energy efficient.²⁷ Because 40% of greenhouse gas emissions come from buildings, the regulations greatly reduced the amount of greenhouse gas emissions.²⁸

Similarly, the Energy Policy Act of 2005 greatly increased the amount of biofuels and renewable resources imported into the United States.²⁹ The Energy Independence and Security Act was signed into law in 2007 and was intended to improve energy efficiency in lighting, appliances, and buildings.³⁰ Title IV of the Act required that by 2015, federal buildings reduce total energy use by 30%.³¹

Although a renewed push for national climate legislation is underway, many past attempts at the federal level to pass new regulations to reduce greenhouse gas emissions have failed.³² While most of the proposed bills would have provided short-term change, only a handful would have created lasting environmental benefits.³³

21. Lazarus, *supra* note 1, at 1155.

22. Dernbach & Kakade, *supra* note 16, at 21.

23. *Id.* at 22.

24. *Id.*

25. *Id.* at 21.

26. *Id.*

27. *Id.* at 22.

28. *Id.* at 22–23.

29. *Id.* at 23.

30. *Id.* at 21.

31. *Id.*

32. William L. Andreen, *Federal Climate Change Legislation and Preemption*, 3 ENV'T'L. & ENERGY L. & POL'Y J. 261, 274 (2008).

33. David D. Doniger, Antonia V. Herzog & Daniel A. Lashof, *Climate Change: An Ambitious, Centrist Approach to Global Warming Legislation*, SCIENCE, Nov. 3, 2006, at 764.

B. State Legislative Efforts

Most of the current efforts to combat climate change are occurring at the state level.³⁴ California has emerged as the leader in legislative efforts to combat climate change.³⁵ Recently, the California legislature passed a bill that seeks to reduce emissions by 25% by 2020, creating new standards for several large local industries.³⁶ California's efforts to reduce emissions by motor vehicles is one of the most significant efforts in the nation, as it endeavors to reduce emissions from light-duty cars by 18% in 2020 and by 27% in 2030.³⁷ Ten states have committed to adopting California's standards once they become effective.³⁸

Several northeastern states have also adopted a cap-and-trade program.³⁹ Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont have implemented legislation to cap emissions at their 2009 level and to reduce emissions by 10% in 2019.⁴⁰ Both Oregon and Washington have adopted emissions caps for new power plants, though plants need only comply with some of the program's requirements in order to be certified.⁴¹ New Hampshire and Massachusetts have emissions caps for existing plants, with current offsets and carbon trading available in the future.⁴²

Several states take less conventional approaches. Twenty-two states now require that a certain percent of energy revenue come from qualifying renewable energy, contributing to energy diversity in those states.⁴³ The percentage required for compliance, however, varies significantly from state to state.⁴⁴ Additionally, at least seventeen states have established plans to stabilize greenhouse gas emission levels at 2010 levels by 2020.⁴⁵ Several states have also filed litigation to reduce emissions.⁴⁶ Several northeastern

34. See Kirsten Engel, *State and Local Climate Change Initiatives: What Is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?*, 38 URB. LAW. 1015 (2006).

35. *Id.* at 1016–19.

36. *Id.* at 1016–17.

37. *Id.* at 1017.

38. *Id.*

39. *Id.* at 1018. “The ‘cap’ sets a limit on emissions, which is lowered over time to reduce the amount of pollutants released into the atmosphere. The ‘trade’ creates a market for carbon allowances, helping companies innovate in order to meet, or come in under, their allocated limit.” *How Cap and Trade Works*, EDF, <http://www.edf.org/climate/how-cap-and-trade-works> (last visited Mar. 6, 2015).

40. *Id.*

41. DeShazo & Freeman, *supra* note 7, at 1523.

42. *Id.* at 1524.

43. *Id.* at 1523.

44. *Id.*

45. Andreen, *supra* note 32, at 264.

46. Engel, *supra* note 34, at 6.

states, that are leaders of state climate change initiatives, have adopted the Regional Greenhouse Gas Initiatives (“RGGI”).⁴⁷ These states have agreed upon a regional limit for fossil-fuel-fired energy generation.⁴⁸ The overall cap is modest, and there is a phase-in period.⁴⁹

While states have made a great deal of headway in passing climate change legislation, more action is needed. Again, state action alone is unlikely to sufficiently address problems with climate change.⁵⁰ Since the United States has chosen not to participate in the Kyoto Protocol,⁵¹ more activists are looking to the federal level for implementing new legislation.⁵²

As both state and federal legislation can be inefficient in accomplishing the goals of climate change legislation, advocates should consider other avenues for instituting change. One of those avenues is litigation.

IV. LITIGATION AS AN ALTERNATIVE TO LEGISLATION

In some instances, federal legislation either moves too slowly or is not very effective. This section explores two cases effecting climate change (one at the national level and one at the supranational level) and concludes that, to an extent, litigation can be a valid alternative to climate change legislation.⁵³ Although neither of the cases discussed herein utilized the doctrine of public nuisance, some courts have used this doctrine to combat climate change.

Massachusetts v. EPA involved twelve states as petitioners.⁵⁴ The petitioners asked the court to determine “whether the EPA has the statutory authority to regulate greenhouse gas emissions from new motor vehicles, and, if so, whether its stated reasons for refusing to do so [were] consistent with the statute.”⁵⁵ The United States Supreme Court held that the Clean Air Act (Air Pollution Control Act)⁵⁶ provided the EPA with authority to regulate greenhouse gas emissions, and that the EPA could not refuse to enforce such standards.⁵⁷ The Court held that “[t]he harms associated with climate change

47. DeShazo & Freeman, *supra* note 7, at 1519–20.

48. *Id.* at 1525.

49. *Id.*

50. Kaswan, *supra* note 15, at 795.

51. “The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets.” *Kyoto Protocol*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (Feb. 2, 2015), http://unfccc.int/kyoto_protocol/items/2830.php.

52. *Id.*

53. Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 WASH. U. L. Q. 1789, 1828 (2005).

54. *Massachusetts v. EPA*, 549 U.S. 497, 505 (2007) (California, Connecticut, Illinois, Maine, Massachusetts, Michigan, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington).

55. *Id.*

56. 42 U.S.C. §§ 7401–7671 (2000).

57. *Massachusetts*, 549 U.S. at 535.

are serious and well recognized”⁵⁸ and cited a rise in global sea levels as evidence of the harms.⁵⁹ This case is one example where litigation has produced a significant difference in federal climate change law by mandating that the EPA regulate greenhouse gas emissions from new motor vehicles.

One interesting example of climate change litigation was filed by the Inuit Circumpolar Conference (“ICC”), which represents Inuits living in the Arctic, against the United States.⁶⁰ The ICC cuts through several national borders, including the United States, Russia, Greenland, and Canada.⁶¹ The petition was filed before the Inter-American Commission on Human Rights (“the Commission”), a regional, national organization. The petition claimed that greenhouse gas emissions violated rights articulated in the American Declaration of the Rights and Duties of Man.⁶² As such, the Commission applied supranational human rights law, relying in part upon other supranational law.⁶³

The reason this litigation is worth consideration is because it takes place on an international level. In the international context, successful litigation could produce results on a larger scale than legislation, which cannot exceed national boundaries.⁶⁴ Of course, transnational litigation produces many potential problems. Even if corporate greenhouse gas emissions are illegal internationally, no global governing body exists to enforce new standards.⁶⁵ The very existence of authority that regulates corporations emanates from the authority of individual countries.⁶⁶

Though the Inuits’ petition was later rejected, there are several important lessons to be learned from the suit.⁶⁷ The petitioners in that case knew they did not have the necessary enforcement mechanism to make the United States reduce their greenhouse gas emissions, though they did hope to bring widespread attention to their cause. Even though one country’s pollution might affect humanity on a global level, no bodies exist on the supranational level to force countries to comply. Obviously, in the event that any sort of international governing body (or international organization that has a mechanism to enforce legislation) develops, litigation would be a way to enforce the greatest amount of change quickly. Such an organization does not appear likely in the near future. Although no enforcement mechanism

58. *Id.* at 499.

59. *Id.*

60. Osofsky, *supra* note 53, at 1843.

61. *Id.* at 1844.

62. This treatise was adopted by the American Convention of Human Rights, of which the United States was not a member. *Id.* at 1845.

63. *Id.*

64. *Id.* at 1850.

65. *Id.*

66. *Id.* at 1851.

67. Jessica Gordon, Note, *Inter-American Commission on Human Rights to Hold Hearing After Rejecting Inuit Climate Change Petition*, 7 SUSTAINABLE DEV. L. & POL’Y 55 (2007).

exists at the supranational level, however, the *Massachusetts v. EPA* case illustrates that significant, lasting change at the federal level can be implemented through litigation.

Considering legislation and litigation separately would likely leave a discussion of climate change incomplete. A more holistic approach to climate change involves cooperative federalism.

V. COOPERATIVE FEDERALISM AND CLIMATE CHANGE

Some have advocated for a cooperative approach between states and the federal government in dealing with climate change, claiming that state and federal legislation can complement each other.⁶⁸ A criticism of this approach is that it is difficult for the affected industry to comply, thereby passing additional costs onto the consumer.⁶⁹ This problem could likely be solved by “modified federalism,” in which only two standards are created.⁷⁰ Though it would be mandatory for all states to comply with the federal climate change regulations, each state could choose whether to adopt a second, more stringent set of regulations (also called “floor preemption”).⁷¹ Therefore, any affected industry would only have two or three sets of regulations to choose from, rather than fifty.

In the past, other major federal regulations, such as the Clean Air Act, have utilized the “modified federalism approach.”⁷² Congress allowed some states to waive compliance with a stricter standard, while still complying with the underlying federal regulation.⁷³ California hoped to establish cooperative federalism to pass stricter state legislation, in order to bypass the federal legislative process.⁷⁴ The text of the Clean Air Act provided that the Administrator of the EPA was required to deny California the waiver only if the Administrator found that: (1) California’s determination that its regulations were at least as stringent as federal regulation was not arbitrary and capricious, (2) California did not need separate standards to meet “compelling and extraordinary reasons” and (3) California’s standards for vehicle emissions were inconsistent with federal standards.⁷⁵ In 1977,

68. Krista Yee, “A Period of Consequences”: *Global Warming Legislation, Cooperative Federalism and the Fight Between the EPA and the State of California*, 32 ENVIRONS ENVTL. L. & POL’Y J. 183, 188 (2008).

69. *Id.* at 191.

70. *Id.* at 189.

71. *Id.*

72. *Id.* at 190.

73. *Id.* at 191.

74. *Id.*

75. *Id.* at 194.

Congress allowed other states to choose whether to comply with California's standards instead of the national standards.⁷⁶

Not all attempts at cooperative federalism have been successful. On July 22, 2002, former California Governor Grey Davis signed the Pavely Bill into law, which would have allowed the California Air Resource Board to regulate vehicle emissions.⁷⁷ In *Massachusetts v. EPA*, however, the Supreme Court determined that the authority to regulate automobile emissions rested within the sole purview of the EPA.⁷⁸ At the end of 2007, the EPA denied California's exemption from the Clean Air Act for the Pavely Bill, noting that greenhouse gas emissions were a "global problem" and therefore any remedy should only be addressed at the federal level.⁷⁹

In 2009, the Administrator of the EPA issued its Endangerment Finding, stating that greenhouse gases endangered the public's health.⁸⁰ Although the finding itself did not impose any new regulations on industries, issuing the finding was a prerequisite for implementing additional emissions regulations for vehicles.⁸¹

In 2013, the EPA issued an initiative to develop regulations to control carbon dioxide emissions from power plants.⁸² The EPA derives its authority to impose these standards under section 111(b) of the Clean Air Act for the federal government and under section 111(d) for state governments.⁸³ Under this proposal the nation will "continue to rely on a diverse mix of energy sources, including efficient natural gas, clean coal technology, nuclear power, and renewable energy like wind and solar."⁸⁴ The standards imposed for existing power plants are expected to be less stringent than the standards for new plants.⁸⁵

Even though cooperative federalism might be an interesting alternative for advocates of climate change legislation, it is likely dead for the time being. Because *Massachusetts v. EPA* likely precludes delegation of environmental regulation to state agencies, it appears that the best option for lasting regulation is at the federal level. However, there are many obstacles that need to be overcome to enact any major federal legislation and climate change is no exception.

76. *Id.* at 195.

77. *Id.* at 199.

78. *Massachusetts v. EPA*, 549 U.S. 497, 528 (2007).

79. *Yee*, *supra* note 68, at 214.

80. *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, EPA (Nov. 22, 2013), <http://www.epa.gov/climatechange/endangerment/>.

81. *Id.*

82. *Reducing Carbon Pollution from the Power Sector*, EPA (Jan. 7, 2015), <http://www2.epa.gov/carbon-pollution-standards>.

83. *Id.*

84. *Id.*

85. *Id.*

VI. PROBLEMS IN IMPLEMENTING FEDERAL CLIMATE CHANGE LEGISLATION

As mentioned earlier, time is not costless in the context of global warming,⁸⁶ and the time-sensitive nature of climate change requires that its proponents be proactive.⁸⁷ In order to make up for lost time, future technological advances must achieve exponentially greater reductions than what we are currently achieving.⁸⁸ In other words, the longer we put off the problem, the harder it will be to fix.

The time-sensitivity problem is exacerbated by the fact that our legislative system was intentionally designed for lawmaking to take place slowly and deliberately.⁸⁹ Our lawmaking system is also built upon bargaining and compromise, which is not always the best option for climate change legislation advocates.⁹⁰ The complex and widespread distribution of greenhouse gas emissions also undermines the likelihood of a powerful political coalition pushing through meaningful legislation, and those in opposition of additional legislation would likely be well-funded.⁹¹ Those drafting climate change legislation must be creative in order to create solutions to these complex problems.

It has been argued that delay in the context of climate change legislation is cheaper in the long-term, because in the interim, technology has the potential to make significant headway and greatly reduce costs.⁹² Furthermore, wouldn't it be possible for increases in technology to completely solve any future Malthusian crises that might arise, climate change included? Because of the absence of market signals to indicate the development of climate change technology in the distant future, the outcome of this argument is uncertain.⁹³ Obviously, it is foolhardy to simply do nothing about climate change in the hopes of it solving itself in the future because of the potential catastrophic consequences if we are wrong.

A second major problem in passing climate change legislation is that the actors who can most easily address climate change are not only the ones who contributed the most to the problem, but are also the ones who have the least incentive to address it.⁹⁴ Major polluters have little profit motivation, without government intervention, to make any headway dealing with climate

86. Lazarus, *supra* note 1, at 1160.

87. Doniger, Herzog & Lashof, *supra* note 33, at 764.

88. *Id.* at 765.

89. Lazarus, *supra* note 1, at 1180.

90. *Id.*

91. *Id.* at 1185.

92. *Id.* at 1175.

93. *Id.*

94. *Id.* at 1160.

change.⁹⁵ Even on a global scale, many powerful nations choose not to address climate change in order to stay economically competitive.⁹⁶ Additionally, even though some parts of the world will quickly suffer dramatic consequences, other parts of the world will suffer few short-term consequences.⁹⁷ This reduces the incentives for the unaffected parts of the world to act even further.⁹⁸ A third problem appears to be no existing governmental framework to address a problem with such a large temporal and spatial scope.⁹⁹

The easiest answer to these problems lies in advocating for climate change regulation on the federal level. First, passage on the federal level would allow for a new “floor,” so states would not have to worry about losing business to other states by passing new regulations.¹⁰⁰ Although the federal government could also pass a “ceiling,” which might be the preferred option for corporations, some environmentalists oppose passing ceilings because it would preempt the passage of additional state regulations.¹⁰¹ Second, the drafters of the legislation could include emission-trading programs in order to make the legislation more palatable for businesses.¹⁰² The importance of forming well-organized interest groups must also be stressed.¹⁰³ If climate change activists wish to impact the legislative process, it is imperative that they pool their resources together in order to match the private sector’s influence.¹⁰⁴

It is also possible that the private sector might push for climate change regulation at the federal level if it has enough incentive because in some instances regulation at the state level has prompted action at the federal level. The U.S. Climate Action Partnership, a co-operative group of businesses and environmental organizations, has stated: “We believe local, state, regional and federal programs can and must be complementary. The aim is to achieve compatibility and avoid conflicts between local, state and federal programs that unnecessarily drive up compliance costs and make achieving our nation’s environmental goals more difficult.”¹⁰⁵

95. *Id.*

96. *Id.*

97. *Id.* at 1168.

98. *Id.* at 1160.

99. *Id.* at 1160–61.

100. Howard A. Learner, *Restraining Federal Preemption When There Is an “Emerging Consensus” of State Environmental Laws and Policies*, 102 NW. U. L. REV. 649, 656 (2008).

101. Lazarus, *supra* note 1, at 1228.

102. *Id.* at 1191.

103. DeShazo & Freeman, *supra* note 7, at 1539.

104. *Id.*

105. *A Blueprint for Legislative Action*, U.S. CLIMATE ACTION P’SHIP (2009), <http://www.us-cap.org/blueprint/>.

One way to provide an incentive for industry is to only regulate products, instead of “end-of-pipe” pollution, at the state level.¹⁰⁶ End-of pipe pollution consists of “[m]ethods used to remove already formed contaminants from a stream of air, water, waste, product or similar [channels]. These techniques are called ‘end-of-pipe’ as they are normally implemented as a last stage of a process before the stream is disposed of or delivered.”¹⁰⁷ The private sector is more likely to push back against product regulations because product regulation could effectively push a business out of an entire market.¹⁰⁸ End-of-pipe pollution regulation allows an affected industry considerably more leeway.¹⁰⁹ As such, states increase the chance that the private sector will appeal to the federal government when they engage in product regulation.¹¹⁰

If many states began passing inconsistent regulations, this might also create enough legislative uncertainty for a corporate push for climate change legislation as a defensive mechanism.¹¹¹ This has happened at least three times so far. When Congress passed the Motor Vehicle Pollution Control Act of 1965, at least in part due to industry concerns, the private sector helped push for the passage of the Air Quality Act of 1967 to preempt new state legislation.¹¹² The private sector acted in a similar way regarding the acid rain provisions in the Clean Air Act.¹¹³ Industry sees scenarios such as these as a means to pass a federal regulatory ceiling in order to “pick off” states with the highest amount of regulation and preempt other states from enacting similar legislation.¹¹⁴ Indeed, climate change advocates often are leery of the legislation advocated by various industries because even when an industry is advocating for additional legislation, it is still serving its own interests.¹¹⁵

One interesting problem in climate change legislation involves protecting the impoverished from higher utility and product costs.¹¹⁶ Increased environmental regulations are likely to drive up the cost of some types of goods,¹¹⁷ which in turn might drive some Americans deeper into

106. DeShazo & Freeman, *supra* note 7, at 1506-07.

107. *End-of-pipe Techniques*, GREENFACTS, <http://www.greenfacts.org/glossary/def/end-of-pipe-techniques.htm> (last visited Feb. 24, 2015).

108. DeShazo & Freeman, *supra* note 7, at 1507-08.

109. *Id.* at 1508.

110. *Id.* at 1509.

111. *Id.* at 1509.

112. *Id.* at 1512.

113. *Id.* at 1536.

114. DeShazo & Freeman, *supra* note 7, at 1532.

115. Andreen, *supra* note 32, at 267.

116. ROBERT GREENSTEIN, SHARON PARROTT & ARLOC SHERMAN, CTR. ON BUDGET AND POLICY PRIORITIES, DESIGNING CLIMATE CHANGE LEGISLATION THAT SHIELDS LOW-INCOME HOUSEHOLDS FROM INCREASED POVERTY AND HARDSHIP 10 (2008), *available at* <http://www.cbpp.org/files/10-25-07climate.pdf>.

117. *Id.*

poverty.¹¹⁸ The Center on Budget and Policy Priorities devised a two-pronged system to address this problem.¹¹⁹ The first prong involves giving a “climate-change rebate” to low-income households through the already-existing general electronic benefit transfer¹²⁰ (“E.B.T.”) system, in combination with tax relief through the Earned Income Tax Credit.¹²¹ Under the second prong, low-income Americans would have their income supplemented by an increase in the Low-Income Home Energy Assistance Program.¹²² It remains to be seen whether such a program would be effective, but climate change advocates must be cognizant of how additional legislation affects the impoverished.

Although many obstacles in the path of climate change legislation may seem difficult to overcome, it is important to remember that sometimes an obstacle can be transformed into a catalyst for change. Understanding the unique problems that climate change legislation faces can prepare educated citizens to address such problems during the legislative process.

VII. THE FUTURE FOR FEDERAL CLIMATE CHANGE LEGISLATION

Proponents of state legislation proffer several arguments regarding the need for state legislation in addition to federal legislation. First, individual states, rather than the federal government, are more likely to address their unique concerns.¹²³ Furthermore, the United States government has not been proactive in drafting new climate change legislation.¹²⁴ Finally, the United States Congress generally uses state legislation as a measuring post, expanding on plans that states already enacted.

The need for federal climate change legislation, as opposed to state legislation, can hardly be called into question. State legislation is generally unable to address problems at the national level.¹²⁵ State legislation creates the problem of “free riders,” where states seek to benefit from the increased environmental protection offered in other states, without spending any of the associated costs.¹²⁶ Some states also likely have different “costs” associated with different problems, and thus legislate in some areas but not others.¹²⁷

118. *Id.*

119. *Id.*

120. *EBT*, USDA (Jan. 7, 2015), <http://www.fns.usda.gov/ebt/general-electronic-benefit-transfer-ebt-information>.

121. GREENSTEIN, PARROTT & SHERMAN, *supra* note 116.

122. *Id.*

123. Yee, *supra* note 68, at 194.

124. *Id.* at 195.

125. Kaswan, *supra* note 15, at 794.

126. *Id.* at 795.

127. *Id.* at 795–96.

Additionally, many types of pollution that affect climate change are not within the boundaries of any one state.¹²⁸ For example, a river might run through many states, and all states share the same air.

Aside from the aforementioned problems, there are other reasons why regulation on the federal level would be more economical. Federal legislation would force states to consider interests outside of their own jurisdiction.¹²⁹ It is also more efficient for the federal government to spend money on technology and research, instead of several states spending the resources to do the same thing.¹³⁰ Furthermore, the federal government has more resources to spend on technology and research than individual states.¹³¹ Finally, if the federal government adopted a cap-and-trade program, a larger market would lower costs and allow for more market fluidity.¹³²

Perhaps the reason that climate change legislation has been more difficult to pass recently is that the American public remains skeptical. Justice Scalia no doubt captured many Americans' feelings on the subject when he said that he was "not a scientist" and further stated, "that's why I don't want to have to deal with global warming, to tell you the truth."¹³³ Public opinion on climate change legislation might be difficult to sway because most climate change legislation asks for increasing short-term cost in exchange for long-term benefits, many of which are difficult to measure.¹³⁴

Dealing with climate change legislation is a daunting task, and one that requires a great deal of time and energy. Of course, this is not the first time that many assumed future climate change legislation in the United States has a bleak outlook.¹³⁵ Indeed, the legislative "moment" that spurred Barack Obama's election to presidency may foreshadow things to come, in terms of federal climate change legislation. President Obama has renewed talks to reduce greenhouse gas emissions, as he made it a large part of his campaign for reelection.¹³⁶ He also appointed a "Climate Czar" to address the matter and issued a memorandum to the EPA, directing the agency to revisit past decisions on climate change.¹³⁷

One of the most important problems facing climate change legislation is that, even should sweeping legislation pass, the political climate is so volatile that it is possible that significant pieces of any legislation could be

128. Yee, *supra* note 68, at 194.

129. Kaswan, *supra* note 15, at 802-03.

130. *Id.* at 826.

131. *Id.*

132. *Id.* at 797.

133. Transcript of Oral Arguments at 23, *Massachusetts v. EPA*, 549 U.S. 497 (2007) (No. 05-1120).

134. Lazarus, *supra* note 1, at 1172.

135. Lazarus, *supra* note 2, at 30.

136. Lazarus, *supra* note 1, at 1189.

137. *Id.*

repealed.¹³⁸ Even apart from inevitable ideological swings in our congressional makeup, many members of Congress could see climate change legislation as an easy target in times of budgetary crisis.¹³⁹ Should any amount of significant climate change reform from Congress come to fruition in the near future, environmentalists should consider which strategies to employ in order to ensure that any new legislation would be lasting.¹⁴⁰

Perhaps the key to lasting climate change legislation is drafting statutes to be flexible, because flexibility would necessarily allow the law to change with evolving environmental standards.¹⁴¹ Flexibility is necessary because of climate change's "temporal and spatial reach"; however, the legislation must also be steadfast enough to be maintained over the long term.¹⁴² Robin Kundis Craig, a Professor of Law at Florida State University College of Law, claims that flexibility alone in drafting legislation is not enough to ensure that the proponents of environmental legislation maintain versatile legislation, but that environmentalists must adopt a "principled flexibility."¹⁴³ This would mean that

both the law and the regulators (1) distinguish in legally significant ways uncontrollable climate change impacts from controllable anthropogenic impacts on species, resources, and ecosystems that can and should be actively managed and regulated, and (2) implement consistent principles for an overall climate change adaptation strategy, even though the application of those principles in particular locations in response to specific climate change impacts will necessarily encompass a broad and creative range of adaptation decisions and actions.¹⁴⁴

A "precommitment strategy" is one employed to take a decision away from oneself in the future.¹⁴⁵ Lasting climate change legislation should include precommitment strategies, which would make it very difficult (but never impossible) to change the legislation in response to certain kinds of concerns.¹⁴⁶ Furthermore, the legislation should contain other precommitment strategies that make it easier to change to the law in response to longer-term concerns, thus ensuring the legislation's viability.¹⁴⁷ Another option would be to include strong financial incentives for businesses to

138. *Id.* at 1156.

139. *Id.*

140. Lazarus, *supra* note 2, at 34.

141. *Id.*

142. Lazarus, *supra* note 1, at 1157–58.

143. Craig, *supra* note 4, at 17.

144. *Id.* at 17–18.

145. Zeb L. Kurth-Nelson & A. David Redish, *Don't Let Me Do That! Models of Precommitment*, FRONTIERS IN NEUROSCIENCE, Oct. 8, 2012, at 1.

146. Lazarus, *supra* note 2, at 34.

147. Lazarus, *supra* note 1, at 1158.

support the legislation (such as an emissions trading program), which would make it less likely that the private sector would seek changes in the law.¹⁴⁸ It is also likely that any sweeping climate change legislation would need to include programs which would alleviate the potentially serious adverse economic effects of implementing sweeping environmental reform, in order to ensure both the passage of the bill and our country's continued economic livelihood.¹⁴⁹ Another potential strategy would be to engage in clever drafting techniques to insulate climate change legislation from potentially fatal unpopular earmarks.¹⁵⁰

The United States Senate Committee on Environment and Public Works, headed by Barbara Boxer, released its own guidelines for passing climate change legislation in 2009, some of which mirror the recommendations discussed above by legal scholars. These "principles" recommended to reduce emissions to levels guided by science to avoid climate change,¹⁵¹ set short and long term emissions targets that are certain and enforceable, with periodic review of the climate science and adjustments to targets and policies as necessary to meet emissions reduction targets,¹⁵² ensure that state and local entities continue pioneering efforts to address global warming,¹⁵³ establish a transparent and accountable market-based system that efficiently reduces carbon emissions,¹⁵⁴ and use revenues from the carbon market in order to accomplish various objectives, such as keeping consumers.¹⁵⁵ Furthermore, as the United States shifts to using additional green energy, we should invest in clean energy technology and measures to produce efficient energy, assist states and local areas to adopt ways to sufficiently address global warming, take economic measures to assist businesses in transitioning to green energy, conserve wildlife threatened by climate change, and work with the international community in order to ensure that other countries also develop lasting efforts to combat climate change.¹⁵⁶ Finally, the United States should provide intentional incentives so that other countries will contribute to the fight against climate change.¹⁵⁷

The Natural Resource Defense Council, a large environmental activist group, has called for similar initiatives for climate change legislation by: promoting investment in energy efficiency and green energy, setting a cap on

148. *Id.* at 1191.

149. *Id.* at 1155–56.

150. Lazarus, *supra* note 2, at 36.

151. U.S. SENATE COMM. ON ENV'T AND PUB. WORKS, PRINCIPALS OF GLOBAL WARMING LEGISLATION (2009), available at <http://www.c2es.org/docUploads/Boxer-principles.pdf>.

152. *Id.*

153. *Id.*

154. *Id.*

155. *Id.*

156. *Id.*

157. *Id.*

greenhouse gas emissions, building on existing climate change legislation at the federal and state levels, and supporting international efforts to curb climate change.¹⁵⁸

The White House's website offers an additional set of goals for enacting global warming legislation.¹⁵⁹ The first goal is to develop and secure America's energy resources by producing safe domestic gas and oil and by increasing America's energy independence.¹⁶⁰ Second, America should provide consumers with choices to reduce costs and save energy, by ensuring that the United States produces more efficient cars, trucks, homes, buildings, and factories.¹⁶¹ Finally, legislation should ensure that we are able to continue to support developing new technology.¹⁶²

Even if environmentalists are unable to pass climate change legislation in the near future, it is likely that eventually America will experience another legislative "moment" in which to pass additional greenhouse gas emissions regulations. When that time comes, environmentalists need a strategy to make sure the regulations will be lasting and effective. In order to do this, the legislation should involve precommitment strategies and be flexible enough to adapt to changes. While it is a good idea for environmentalists to organize their agenda by putting forth "principles," these principles will not do much good if future legislation is unable to withstand the passage of time. As far as content is concerned, future climate legislation should include international incentives to reduce greenhouse gas emissions, insulate some of the effects of passing additional regulation from the private sector, and build on existing regulation.

VIII. CONCLUSION

Although many states have made significant efforts towards climate change mitigation and adaptation, it is unlikely that states can make much of a difference on the global scale. Furthermore, there exists no mechanism at the international level to implement changes. The most efficient way to make major policy changes is at the federal level, yet there are several major problems with enacting lasting climate change legislation; the longer we delay addressing climate change, the more difficult it will be to address the problem in the future. Obviously, this problem can be overcome by acting immediately.

158. *We Cannot Wait Any Longer to Put Our Nation on a Path to Cleaner Energy*, NATURAL RES. DEF. COUNCIL, <http://www.nrdc.org/globalwarming/legislation/senate.asp> (last visited Mar. 12, 2015).

159. *Advancing American Energy*, WHITE HOUSE, [http://www.whitehouse.gov/energy/securing-american-energy#clean energy](http://www.whitehouse.gov/energy/securing-american-energy#clean%20energy) (last visited Mar. 12, 2015).

160. *Id.*

161. *Id.*

162. *Id.*

Climate change legislation is opposed by corporations (with notable exceptions, such as the U.S. Climate Action Partnership), which have a great deal of financial resources and political influence. Perhaps the easiest way to spur corporations to join with environmentalists in order to pass additional climate change legislation is for states to pass inconsistent regulation. Passing inconsistent regulations create market uncertainty, thereby incentivizing corporations to pass “ceiling” regulations in order to preempt arbitrary environmental standards.

However, even if environmentalists are able to pass federal climate change legislation, then it must be both effective and lasting. Perhaps the best way to accomplish this is to include precommitment strategies and make the legislation flexible enough to withstand political change. Any additional climate change regulations should likely include incentives for the intentional community to reduce greenhouse gas emissions, build on existing federal and state legislation, and insulate the private sector against some of the effects of passing sweeping environmental legislation. Assuming that Congress is unable to pass climate change legislation in the immediate future, environmentalists should know ways to pass effective and lasting legislation for the next legislative “moment.”