

# LESLEY K. MCALLISTER\*

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<sup>\*</sup> Associate Professor of Law, University of San Diego; Associate Adjunct Professor, School of International Relations and Pacific Studies, University of California San Diego. For their helpful comments, the author would like to thank Alice Kaswan, Rob Fischman, Michael Burger, Brigham Daniels, Dan Farber, Joel Mintz, and Ann Carlson.

## I. INTRODUCTION

There is an unexpectedly high level of coordination in policymaking and institution-building among the states in the arena of climate policy. An important initial question regarding the high level of state activity in climate change policy is why individual states choose to become active in regulating greenhouse gas emissions at all. To the extent that a state must bear the presumed costs of making and carrying out such policies without enjoying the presumed potential benefit—namely, an appreciable decrease in the risks of climate change, states appear to be acting irrationally. However, other benefits that states may obtain, such as the opportunity to make a symbolic political statement and become a leader in developing emissions markets, help explain this apparent puzzle.<sup>1</sup>

This Article, however, addresses a different question: why have states chosen to coordinate and collaborate with other states in their development of climate change law? Or, more specifically, why have many states joined with other states to become part of a regional greenhouse gas emission reduction program? The extent of collaboration runs contrary to the common theories of competition in state environmental policy namely, that states are likely to engage in a "race to the bottom" or a "race to the top." An analysis of the reasons for state collaboration in climate change thus holds potential to move towards a more complete understanding of how and why states interact in the environmental policy arena. Moreover, teasing out the reasons that states have often chosen to collaborate sheds light on the state perspectives and interests that are likely to come into play as federal climate policy is negotiated. In many cases, the reasons that states join regional initiatives are also likely to be the same reasons that they would have for favoring a potential federal regime.

In its first part, this Article examines theories of state competition that are common in discussions concerning state interaction in environmental policy. The second part of the Article describes the three primary regional climate change regulation initiatives that have emerged: the Regional Greenhouse Gas Initiative, Western Climate Initiative, and Midwestern Greenhouse Gas Accord. The final portion of this Article analyzes states' motivations to collaborate in climate law.

<sup>1.</sup> See generally Kirsten H. Engel & Barak Y. Orbach, Micro-Motives and State and Local Climate Change Initiatives, 2 HARV. L. & POL'Y REV. 119 (2008); J.R. DeShazo & Jody Freeman, Timing and Form of Federal Regulation: The Case of Climate Change, 155 U. P.A. L. REV. 1499, 1519 (2007).

# II. ENVIRONMENTAL LAW IN THE STATES: COMPETITIVE THEORIES AND COLLABORATIVE REALITIES

Theories of state competition in environmental policy abound. According to the "race to the bottom" theory, states will compete to lower their standards so as to attract economic development to their state. According to the "race to the top" theory, states compete to raise their environmental policy for a variety of political and economic reasons. However, in contrast to assumptions of state competition, extensive state collaboration has occurred in climate policy. Most importantly, three large-scale regional agreements have been formed—the Regional Greenhouse Gas Initiative, the Western Climate Initiative, and the Midwestern Greenhouse Gas Reduction Accord—through which states are cooperating in the development and implementation of regulatory frameworks for reducing greenhouse gas emissions.

# A. Theories of State Competition

Discussions of how states relate to one another with regard to their environmental policies are dominated by competitive dynamics. It has often been observed that when federal standards are not set, states may compete for industry and associated economic development through environmental standards.<sup>2</sup> More specifically, they will seek to set environmental standards such that they gain a competitive advantage as a seller of location rights for industrial facilities that are mobile. The prevailing model is one of strategic competition that may lead states to establish either more- or less-stringent standards.<sup>3</sup> In the particular context of climate policy, competition has been argued to be the driver that explains the differences among states in their levels of policy development.<sup>4</sup> This section describes two directions in which a competitive race may head: to the bottom or to the top.

<sup>2.</sup> Cf. Kirsten H. Engel, State Environmental Standard-setting: Is There a "Race" and Is It "To the Bottom"?, 48 HASTINGS L.J. 271 (1996-1997); Richard L. Revesz, The Race to the Bottom and Federal Environmental Regulation: A Response To Critics, 82 Minn. L. Rev. 535 (1997-1998) (discussing his previous challenge of the race to the bottom theory); Peter P. Swire, The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition among Jurisdictions in Environmental Law, 14 YALE L. & POL'Y REV. 67 (1996).

<sup>3.</sup> Engel, supra note 2, at 345.

<sup>4.</sup> Barry G. Rabe et al., State Competition as a Source Driving Climate Change Mitigation, 14 N.Y.U. ENVTL. L.J. 1, 3 (2006).

#### 1. Race to the Bottom

A common justification for federal regulation has been the theory that, in its absence, states would compete to lower their environmental standards in order to provide economic advantages.<sup>5</sup>

States with lower environmental standards would, theoretically, be more attractive to businesses concerned with the costs of complying with environmental regulations. As a result, a process of competition would create downward pressure on environmental standards. Given the mobility of industry, localities "will adopt lower standards of environmental quality than they would prefer if there were some binding mechanism that enabled them to enact higher standards, thus eliminating the threatened loss of industry or development."

Climate change is the type of environmental problem for which we might expect a race to the bottom in the absence of federal regulation. The costs to state residents may be high: state regulatory action to reduce greenhouse gas emissions could impose significant costs on existing and potential businesses in the state. In contrast, benefits may be nonexistent or small. The emissions reductions achieved by a single state cannot solve the problem of climate change, and to the extent it might slow climate change, this benefit accrues to all, not just to the state. In sum, most of the negative environmental impacts of non- or under-regulation would be felt outside the state, and most of the positive environmental impacts of regulating would be shared with the rest of the world. Thus, one would expect that sub-national governments, acting alone, would consistently under-regulate.

Critics have challenged the theoretical and empirical support for a race to the bottom in environmental policy. One influential argument has been that allowing states to compete in setting standards does not lead to

<sup>5.</sup> See, e.g., Robert B. McKinstry, Jr. & Thomas D. Peterson, Implications of the New "Old" Federalism in Climate-Change Legislation: How to Function in a Global Marketplace When States Take the Lead, 20 PAC. McGeorge Global Bus. & Dev. L.J. 61, 89-90 (2007); Jonathan H. Adler, Jurisdictional Mismatch in Environmental Federalism, 14 NYU Env'tl. L.J. 130, 151 (2005); Clifford Rechtschaffen & David L. Markell, Reinventing Environmental Enforcement and the State/Federal Relationship 22 (stating that the Supreme Court approved of Congress's reliance on the race to the bottom rationale in Hodel. Va. Surface Mining & Reclamation Ass'n, 454 U.S. 264 (1981)).

<sup>6.</sup> Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1212 (1976-1977).

<sup>7.</sup> DeShazo & Freeman, *supra* note 1, at 1518-19. *But see id.* at 1537 (arguing that the race to the bottom dynamic is inapplicable to climate change because all the states are technically at the bottom).

<sup>8.</sup> *Id.* at 1518.

<sup>9.</sup> *Cf.* Rabe et al., *supra* note 4, at 7.

a race to the bottom but, rather, to social optimality; net social welfare will be enhanced as states choose the optimal balance of environmental protection and economic development for their jurisdictions.<sup>10</sup> In other words, allowing states to choose the standard that most closely reflects their state-specific cost-benefit calculation leads to a more efficient allocation of industrial activity among states.<sup>11</sup>

Those who have defended the theoretical underpinnings of a race to the bottom have rejoined that there are failures in regulatory competition that prevent an efficient outcome. 12 They argue, for example, that states do compete for industry by lowering their standards, but the lower standards do not end up playing a major role in where industries decide to locate. 13 As a result, states may forgo the benefits of higher standards without capturing the economic benefits that would make this outcome socially optimal. 14 In addition, it has been argued that because the environmental benefits of regulation are often delayed, state politicians may suffer from "systematic miscalculations" in trading them off against economic goals. 15

The empirical record supporting the theory that states will race to the bottom is mixed. <sup>16</sup> Critics claim that little empirical evidence supports a race to the bottom and point to instances in which states choose to exceed federal standards, which provides evidence to the contrary. <sup>17</sup> Defenders, in turn, proffer evidence that state environmental regulators perceive a race to the bottom and point to the proliferation of state audit

<sup>10.</sup> RECHTSCHAFFEN & MARKELL, supra note 5; Richard L. Revesz, Rehabilitating Interstate Competition: Rethinking the "Race to the Bottom" Rationale for Federal Environmental Regulation, 67 NYU L. Rev. 1210 (1992).

<sup>11.</sup> See generally Jonathan H. Adler, A New Environmental Federalism, 13 F. FOR APPLIED RES. & PUB. POL'Y, no. 4: 55-61 (1998).

<sup>12.</sup> Robert L. Glicksman & Richard E. Levy, A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation: The Case of Global Climate Change, 102 Nw. U. L. Rev. 579, 597-98 (2008).

<sup>13.</sup> Engel, supra note 2, at 337; see Daniel Esty, Revitalizing Environmental Federalism, 95 MICH. L. REV. 570 (1996).

<sup>14.</sup> Cf. RECHTSCHAFFEN & MARKELL, supra note 5.

<sup>15.</sup> Esty, *supra* note 13, at 573-74. *See* Swire, *supra* note 2, at 101-02 (explaining that the benefits of environmental regulation tend to produce a weaker interest group response than the benefits of favoring industry because, *inter alia*, the former often occur over a much longer time).

<sup>16.</sup> *Cf.* Glicksman & Levy, *supra* note 12.

<sup>17.</sup> Adler, *supra* note 5, at 153-54; Adler, *supra* note 11, at x (nn.23-26) (pointing to existence of state regulations in New Jersey and most other states that exceed federal standards); *but see* Revesz, *supra* note 10, at 1228-29 (pointing out the proliferation of more stringent state standards is not necessarily inconsistent with the race to the bottom).

privilege and immunity as well as state laws that prevent state environmental agencies from enacting standards more stringent than federal minimums.<sup>18</sup>

# 2. Race to the Top

Alternatively, there is the possibility that states may engage in a "race to the top" in environmental regulation. <sup>19</sup> In a race to the top, states raise their environmental standards to achieve some political or economic advantage *vis-à-vis* other states. Critics of the race to the bottom theory often accept that strategic competition may play a role in environmental policy decision-making at the state level but they suggest that the direction of the race is unclear. <sup>20</sup> As stated by Jonathan Adler, "While it is plausible that interjurisdictional competition could produce suboptimal results due to game theoretic interactions, there is no *a priori* reason to assume that the result would be state standards that are suboptimally lax, rather than suboptimally stringent." As such, a race to the top could occur rather than a race to the bottom, resulting in over-regulation rather than under-regulation.

In climate policy, there seem to be indications of a race to the top. States have, for example, progressively increased the amount of electricity that must be generated by renewable sources under state "renewable portfolio standards." A competitive dynamic also seems apparent in the setting of greenhouse gas reduction targets. In 1998, Vermont became the first state to set a statewide reduction target. Six other Northeastern states had followed suit by 2004. By mid-2009, twenty-one states had done so, including states such as New Mexico and

<sup>18.</sup> Engel, *supra* note 2, at 337-351.

<sup>19.</sup> See generally BARRY G. RABE, RACE TO THE TOP: THE EXPANDING ROLE OF U.S. STATE RENEWABLE PORTFOLIO STANDARDS (Pew Center for Global Climate Change 2006), available at http://www.pewclimate.org/docUploads/RPSReportFinal.pdf.

<sup>20.</sup> See Revesz, supra note 2, at 551 (suggesting agreement that game-theoretic interactions among the states may exist such that interstate competition might not lead to maximization of social welfare); Engel, supra note 2, at 345 (acknowledging that a determination that there is strategic competition does not establish whether it causes states to establish more or less stringent standards).

<sup>21.</sup> Adler, supra note 5, at 152.

<sup>22.</sup> RABE, *supra* note 19, at 7.

<sup>23.</sup> JONATHAN L. RAMSEUR, CLIMATE CHANGE: ACTION BY STATES TO ADDRESS GREENHOUSE GAS EMISSIONS (Congressional Research Service Dec. 4, 2008) 17-18, available at http://fpc.state.gov/documents/organization/116579.pdf. See especially Table 1.

<sup>24.</sup> *Id.* (showing target adoption by New Hampshire in 2001; New York and Rhode Island in 2002; Maine in 2003; and Connecticut and Massachusetts in 2004).

Utah, which engage in substantial coal production.<sup>25</sup> The statewide targets were made mandatory in three of the twenty states: California, Hawaii, and New Jersey.<sup>26</sup> As another example, California adopted vehicle greenhouse gas emission standards, and sixteen states announced their intention to follow California.<sup>27</sup> In the climate arena, states often seem to attempt to match or exceed the policy developments in other states.

The high level of state activity in climate policy suggests that the costbenefit calculation that race-to-the-bottom theorists assumed states would participate in was too narrow. The economic costs of regulation may be offset by benefits outside the strictly environmental benefits that can be captured by the state. Such benefits to state leaders of developing climate change policies may include satisfying the electorate,<sup>28</sup> enhancing their national political reputation,<sup>29</sup> and positioning state emitters to be eligible for early-action credits in a future federal emissions trading regime.<sup>30</sup>

Moreover, there are economic benefits to climate-change regulation that states may appreciate.<sup>31</sup> Improvements in appliance efficiency and building would generate positive economic returns over their lifecycles, as would the promotion of vehicle fuel-economy packages that incorporate

<sup>25.</sup> *Id.* In addition to the twenty states listed in Table 1, Maryland set targets in April 2009. *See* Maryland's Greenhouse Gas Reduction Act of 2009 S.B. 278 (Md. 2009), *available at* http://mlis.state.md.us/2009rs/billfile/Sb0278.htm (last visited June 2, 2009).

<sup>26.</sup> RAMSEUR, *supra* note 23, at 16.

<sup>27.</sup> A.B. 1493 (Cal. 2002) (California legislation requiring greenhouse gas emission standards for mobile sources). The states that have followed California are AZ, CO, CT, FL, MA, MD, ME, NJ, NM, NY, OR, PA, RI, UT, VT, and WA. Press Release, Office of the Governor, Governor Schwarzenegger Issues Statement after U.S. EPA Rejects California's Tailpipe Emissions Waiver Request (Dec. 19, 2007), http://gov.ca.gov/press-release/8353/.

<sup>28.</sup> DeShazo & Freeman, *supra* note 1, at 1519.

<sup>29.</sup> Jonathan Baert Weiner, *On the Political Economy of Global Environmental Regulation*, 87 GEO L.J. 749, 763 (1999) (citing race to the top among politicians vying for national office); Engel & Orbach, *supra* note 1, at 134 (discussing political entrepreneurship).

<sup>30.</sup> Engel & Orbach, *supra* note 1, at 134 (discussing future markets for emissions rights).

<sup>31.</sup> Cf. John Cryts et al., Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost? xii (McKinsey & Co. Dec. 2007) (estimating that almost 40% of abatement could be achieved at "negative" marginal costs); 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, 1024 (2006); Engel & Orbach, supra note 1, at 132 and 135.

aerodynamics, reductions in rolling resistance, and other fuel-saving design elements.<sup>32</sup> Indeed, the states that have responded to climate change have generally done so in ways that they deem likely to simultaneously promote economic development.<sup>33</sup> Regulation requiring renewable energy generation is often promoted based on its potential to stimulate new markets and create local jobs.<sup>34</sup>

To a greater degree than in the case of the race to the bottom, the empirical evidence supporting a race to the top in environmental regulation is lacking.<sup>35</sup> The apparent race to the top in climate law, and the political and economic opportunities that help explain it, seem unlikely to be present in many areas of regulation with less political salience.<sup>36</sup> In these areas, the narrower cost-benefit calculation that compares economic and environmental benefits is more likely to adequately characterize the decision-making calculus faced by state leaders.

## B. Collaborative Initiatives

Despite the emphasis on state competition in the environmental regulation literature, state collaboration has predominated in climate policy over the past decade. Of the fifty states, twenty-five participate in one of the three regional climate initiatives. In some cases, these regional agreements defy geographic zones. The eastern Canadian province Ontario, for example, has signed on as a member of the Western Climate Initiative. This section describes each of the collaborative initiatives with attention to the governance structures that have been established and the activities that have been undertaken.

<sup>32.</sup> CRYTS ET AL., *supra* note 31, at xiii-xv.

<sup>33.</sup> Barry Rabe, Second Generation Climate Policies in the American States: Proliferation, Diffusion, and Regionalization, ISSUES IN GOVERNANCE STUD. No. 6, Aug. 2006 at 3.

<sup>34.</sup> *Id*.

<sup>35.</sup> Glicksman & Levy, *supra* note 12, at 606 (stating that "there is little evidence that there is a systematic prisoner's dilemma in which states are forced to overregulate").

<sup>36.</sup> Cf. 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 (citing several examples of a race to the top, only one of which—controlling mercury pollution—is unrelated to climate change). Also, it is worth noting that mercury pollution gained a high degree of political salience during the 2000s because of the promulgation of the controversial Clean Air Mercury Rule. See James E. McCarthy, Mercury Emissions from Electric Power Plants: States are Setting Stricter Limits (Congressional Research Service July 11, 2006)).

## 1. Regional Greenhouse Gas Initiative

The Regional Greenhouse Gas Initiative (RGGI) was established in 2005 with a Memorandum of Understanding signed by seven Eastern states: Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont.<sup>37</sup> RGGI's cap-and-trade program began operating in 2009, with the participation of the original signatories and three additional states: Maryland, Massachusetts, and Rhode Island.<sup>38</sup> The program caps the emission of carbon dioxide from power plants within these states at 2009 levels through 2014, and then the cap declines by 2.5% per year through 2018.<sup>39</sup>

The Memorandum of Understanding was the product of discussions among the states that dated back to 2003.<sup>40</sup> Signatories committed to developing a "CO2 Budget Trading program" and set forth the overall regional and state-specific caps (referred to as "budgets").<sup>41</sup> It also contained other detailed information about the design of the program, including provisions regarding a safety valve, offsets, early reduction credits, and banking.<sup>42</sup> With respect to the administration of RGGI, signatories agreed to draft a Model Rule, create a regional organization to run the program, and monitor its progress.<sup>43</sup>

<sup>37.</sup> ERIK B. BLUEMEL, Regional Regulatory Initiatives Addressing GHG Leakage in the USA, in CLIMATE CHANGE AND EUROPEAN EMISSIONS TRADING: LESSONS FOR THEORY AND PRACTICE 227 (Michael Faure & Marjan Peeters, eds., 2008); Memorandum of Understanding from the Regional Greenhouse Gas Initiative (Dec. 20, 2005), http://www.rggi.org/docs/mou\_12\_20\_05.pdf. The states issued an Amendment to the MOU in August 2006 to make minor modifications related to the compliance period and safety valve triggers. Amendment to Memorandum of Understanding from Regional Greenhouse Gas Initiative (Aug. 8, 2006), http://www.rggi.org/docs/mou\_8\_8\_06.pdf.

<sup>38.</sup> BLUEMEL, *supra* note 37. Observer jurisdictions, which do not commit to group GHG reduction goals but participate in proceedings should they opt to join later, include Pennsylvania and Canadian provinces Quebec, New Brunswick, and Ontario. *See Program Contacts by State*, REGIONAL GREENHOUSE GAS INITIATIVE, http://www.rggi.org/Program Contacts By State.

<sup>39.</sup> BLUEMEL, *supra* note 37, at 228-229 (further noting that the program is limited to electricity-generating units over 25MW that use more than 50% fossil fuel for combustion, thus encompassing about 750 power plants).

<sup>40.</sup> Christopher D. Ball, *Regional Climate Program Moves Ahead as Pre-emption Threat Looms*, THE LEGAL INTELLIGENCER, Oct. 16, 2008, at 1, *available at* http://www.mgkflaw.com/articles2008/legal-20081016.pdf.

<sup>41.</sup> Memorandum of Understanding from Regional Greenhouse Gas Initiative, *supra* note 37, at 2.

<sup>42.</sup> *Id*.

<sup>43.</sup> *Id*.

In 2006, RGGI released the final Model Rule, which had to be adopted by each participating state through legislation or regulation.<sup>44</sup> The Model Rule set forth the basic administrative functioning of the program, including allowance distribution, monitoring and reporting, and offset provisions. The states then adopted their own versions of the Model Rule, legally enabling their participation in the program.<sup>45</sup>

## 2. Western Climate Initiative

The Western Climate Initiative (WCI) was formed with a Memorandum of Understanding signed in February 2007 by the governors of Arizona, California, New Mexico, and Oregon. Under the pact, the signatories agreed to set a regional emissions-reduction goal, develop the design for a regional cap-and-trade program to achieve the goal, and participate in an emissions registry. By 2009, participant states also included Utah and Montana along with Canadian provinces British Columbia, Manitoba, Ontario, and Quebec.

Encompassing a larger array of greenhouse gases and types of emitters than RGGI, the proposed WCI cap-and-trade program is much more ambitious. Pollutants covered by the program include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.<sup>49</sup> When implemented, the program would cover nearly

<sup>44.</sup> REGIONAL GREENHOUSE GAS INITIATIVE MODEL RULE (Proposed Official Draft 2006), available at http://www.rggi.org/docs/model\_rule\_8\_15\_06.pdf. A corrected Model Rule was released in January 2007 that reflected non-substantive technical adjustments. See REGIONAL GREENHOUSE GAS INITIATIVE MODEL RULE (Proposed Official Draft 2006), available at http://www.rggi.org/docs/model\_rule\_corrected\_1\_5\_07.pdf; see Regional Greenhouse Gas Initiative, PEW CENTER FOR GLOBAL CLIMATE CHANGE, http://www.pewclimate.org/what s being done/in the states/rggi/ (last visited Aug. 4, 2009).

<sup>45.</sup> Christopher Ball, Regional Climate Program Moves Ahead as Pre-emption Threat Looms, The Legal Intelligencer (Oct. 16, 2008), available at http://www.mgkflaw.com/articles2008/legal-20081016.pdf (explaining that each state had to pass or otherwise adopt state rules and regulations that implemented the RGGI Model Rule). In December 2008, the RGGI states issued a revised Model Rule to reflect consistencies among state rules. Regional Greenhouse Gas Intiative Model Rule (Proposed Official Draft 2008), available at http://www.rggi.org/model\_rule\_key\_documents\_link (follow "Model Rule (Revised December 31, 2008)" hyperlink).

<sup>46.</sup> Western Regional Climate Action Initiative (Feb. 26, 2007), http://www.azclimatechange.gov/download/wrcai\_signed.pdf.

<sup>47.</sup> *Id*.

<sup>48.</sup> Observer states include Alaska, Colorado, Idaho, Kansas, Nevada, Wyoming, the Canadian province Saskatchewan, and Mexican states Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora and Tamaulipas. *See Western Climate Initiative Update*, WESTERNCLIMATEINITIATIVE.ORG (Aug. 27, 2007), http://www.climatechange.ca.gov/events/2007-08-30\_wci/2007-08\_WCU\_UPDATE.pdf.

<sup>49.</sup> DESIGN RECOMMENDATIONS FOR THE WCI REGIONAL CAP-AND-TRADE PROGRAM 1 (Western Climate Initiative Sept. 23, 2008), available at http://www.western.climateinitiative.org/ewebeditpro/items/O104F21252.pdf.

90% of the region's emissions, including those from electricity, industry, transportation and commercial facilities.<sup>50</sup> The program is slated to begin in 2012 with the goal of reducing emissions to 15% below 2005 levels by 2020.<sup>51</sup>

The program is being designed through the work of subcommittees in the areas of reporting, electricity, scope, allocations, and offsets.<sup>52</sup> For ultimate implementation of the WCI, each state must pass legislation that authorizes its participation.<sup>53</sup>

#### 3. The Midwestern Greenhouse Gas Accord

The Midwestern Greenhouse Gas Accord (MGGA) was signed in November 2007. Founding members include the states of Illinois, Iowa, Kansas, Michigan, Minnesota, Wisconsin, and the Canadian province of Manitoba.<sup>54</sup> The signatories agreed to work jointly to establish greenhouse gas reduction targets, develop a multi-sector cap-and-trade program, participate in an emissions registry, and develop other mechanisms and policies such as a low-carbon fuel standard.<sup>55</sup> The Accord established the Greenhouse Gas Advisory Group consisting of representatives of public, corporate, and non-profit sector institutions and charged it with making recommendations to state leaders for Accord implementation. The Advisory Group then created sub-groups to work on the various aspects of model rule development—namely, scope, target-setting, data and reporting, allowances, offsets, and modeling.<sup>56</sup>

<sup>50.</sup> Id. at 15-17.

<sup>51.</sup> *Id.* at 12, 1.

<sup>52.</sup> *Id.* at 54.

<sup>53.</sup> Cf. Gold et al., Greenhouse Gas Cap-and-Trade Legislative Developments in the United States and in the Western Climate Initiative, PERKINSCOIE.COM (May 21, 2009), http://www.perkinscoie.com/news/pubs\_detail.aspx?publication=2135&op=updates (specifically discussing the barriers to such legislation in several WCI states).

<sup>54.</sup> MIDWESTERN GREENHOUSE GAS ACCORD 4 (Midwestern Governors Association Nov. 15, 2007), available at http://www.midwesterngovernors.org/Publications/Greenhouse %20gas%20accord\_Layout%201.pdf. Observers included Indiana, Ohio, and South Dakota. Id. Ontario joined as an observer in May 2008. See News, New Observer to Accord Announced, MIDWESTERN GREENHOUSE GAS REDUCTION ACCORD, May 27, 2008, http://www.midwesternaccord.org/news.html.

<sup>55.</sup> MIDWESTERN GREENHOUSE GAS ACCORD, *supra* note 54, at 3.

<sup>56.</sup> MGA GHG Accord Advisory Group: Meeting One Summary, Mar. 14, 2008, http://www.midwesternaccord.org/Meeting%20material%20pages/GHG-meeting-1/GHG%20Accord%20First%20Meeting%20Summary.ppt.

In November 2008, the Advisory Group released a draft of its preliminary recommendations that proposed emissions targets and design elements of the cap-and-trade program.<sup>57</sup> Under these recommendations, the Accord would work towards reducing 2020 emissions by 15 to 25% below 2005 emissions as well as 2050 emissions by 60 to 80% below 2005 levels. The design recommendations dealt with the program scope, allowance distribution, offset policies, and mandatory reporting requirements. However, given that the Accord set an effective deadline of July 2008 for establishment of the targets and November 2008 for the "complete development of proposed cap-and-trade agreement and a model rule," it is clear that implementation has encountered delays.<sup>58</sup>

At the same time that the Midwestern Accord was signed, eight members of the Midwestern Governors Association signed the Energy Security and Climate Stewardship Platform.<sup>59</sup> The Platform set a regional goal to "maximize the energy resources and economic advantages and opportunities of Midwestern states while reducing emissions of atmospheric carbon dioxide (CO<sub>2</sub>) and other greenhouse gases."<sup>60</sup> To achieve this goal, the Platform focuses on four main policy areas, with measureable goals and objectives for each: energy efficiency, biobased products and transportation, renewable electricity, and advanced coal and carbon capture and storage.

#### III. MOTIVATIONS FOR STATE COLLABORATION IN CLIMATE LAW

Generally, states do not collaborate on a regional basis in setting environmental standards. Most often, state collaborations have occurred where there is an ecosystem or resource that spans the borders of a group of states, and those states cooperatively manage that resource.<sup>61</sup> The Chesapeake Bay Program and interstate compacts such as the Ohio River Valley Water Sanitation Compact are examples.<sup>62</sup> Given that

<sup>57.</sup> MIDWESTERN GREENHOUSE GAS REDUCTION ACCORD: PRELIMINARY RECOMMENDATIONS OF THE ADVISORY GROUP (Draft, Nov. 1, 2008), available at http://www.midwesternaccord.org/News%20Page/Accord%20Draft%20Recs%2011%201%2008.doc.

<sup>58.</sup> MIDWESTERN GREENHOUSE GAS ACCORD, *supra* note 54.

<sup>59.</sup> ENERGY SECURITY AND CLIMATE STEWARDSHIP PLATFORM FOR THE MIDWEST 6 (Midwestern Governors Association 2007), available at http://www.midwesterngovernors.org/Publications/MGA\_Platform2WebVersion.pdf.

<sup>60.</sup> *Id* 

<sup>61.</sup> Rabe, *supra* note 33, at 6; Kirsten Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. ENVTL. L.J. 54, 57 (2005).

<sup>62.</sup> Chesapeake Bay Program Office, U.S. ENVIL. PROTECTION AGENCY, http://www.epa.gov/region3/chesapeake (last visited Aug. 8, 2009); Thomas W. Merrill, Golden Rules for Transboundary Pollution, 46 DUKE L.J. 931, 965 (1997). See generally Noah D. Hall, Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region, 77 U. Colo. L. Rev. 405 (2006).

climate change is a global problem, the regional efforts to regulate greenhouse gases cannot be similarly explained as a match to the problem's geographic scope.

The general weakness of state collaboration in environmental policy can be understood in economic terms—transaction costs to coordinate at regional levels are high, and the benefits of doing so have seemed low.<sup>63</sup> So part of the inquiry is, "What is different about climate change?" Why are transaction costs surmountable in climate change policy? This section identifies and discusses three reasons for the high degree of state collaboration: to facilitate policy diffusion, to achieve efficiencies in cap-and-trade, and to engage in a regional race to national influence.

## A. Policy Diffusion

Regional collaborations serve as forums for sharing information and diffusing climate change policy among states.<sup>64</sup> This process of policy diffusion has two drivers that have worked together to produce regional collaborations. States that lag in developing climate policy may seek to learn from other states when they join a regional initiative as a member or an observer. States that are more advanced, in turn, are interested in diffusing their climate policy developments so that they are not acting alone in a way that could disadvantage state businesses or the state economy.

A common justification for federalizing environmental law involves the economies of scale that the federal government can achieve in developing and deploying environmental information. Having each state independently develop pollution regulation, for example, would lead to duplicative regulatory work, and states would be tempted to free-ride on other states that make major investments.<sup>65</sup> In the absence of federal involvement in climate policy during the early 2000s, states sought to obtain similar economies of scale, and the benefits thereof, by collaborating. In this way, the regional initiatives worked to replace

<sup>63.</sup> Cf. Richard B. Stewart, The Development of Administrative and Quasi-Constitutional Law in Judicial Review of Environmental Decisionmaking: Lessons from the Clean Air Act, 62 Iowa L. Rev. 713, 747 (1976-1977).

<sup>64.</sup> Rabe, *supra* note 33, at 5.

<sup>65.</sup> ROBERT L GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 86 (5th ed., Aspen Publishers 2007); Glicksman & Levy, *supra* note 12, at 595.

some of the functions that are usually assumed by the federal government.<sup>66</sup>

Importantly, the information to be gained by a state through a regional collaboration is not just information for information's sake. Business opportunities abound in climate policy, and studies have suggested that many greenhouse gas reductions are achievable at a negative cost.<sup>67</sup> States may, thus, view regional collaborations as a source of information that will enable them to enact policies to promote energy efficiency and renewable energy—activities viewed as capable of creating jobs and other economic benefits.<sup>68</sup>

In addition, states that set greenhouse gas reduction targets may view joining a regional collaboration as a means toward substantiating and meeting these commitments. Of the twenty-one states that set state-wide greenhouse gas-reductions targets, all but four participate in one of the regional initiatives.<sup>69</sup> In the RGGI and WCI, almost all of the member states set greenhouse gas-reduction targets before they joined the regional initiative.<sup>70</sup> Interestingly, the MGGA is different in this regard: only two of the six MGGA states have set emissions-reductions targets.<sup>71</sup>

The information that may be exchanged is region-specific, which may increase its value. States in a given region may share certain characteristics that make them suitable for certain renewable energy technologies or certain energy efficiency approaches. Moreover, while information sharing in the regional initiatives has been focused on either reducing emissions or mitigation, states in a given region are likely to also share certain vulnerabilities, such as rising sea level or changing precipitation patterns. To the extent that a regional initiative creates a forum to also discuss or take action on climate change adaptation, states may also perceive a benefit in this regard.

<sup>66.</sup> Engel, *supra* note 31, at 1027.

<sup>67.</sup> CRYTS ET AL., *supra* note 31; Thomas D. Peterson, Robert B. McKinstry, Jr., & John C. Dernbach, *Developing a Comprehensive Approach to Climate Change Policy in the United States that Fully Integrates Levels of Government and Economic Sectors*, 26 VA. ENVTL. L.J. 219, 234 (citing studies of the Center for Climate Strategies).

<sup>68.</sup> RABE, *supra* note 19 at 7 (citing "jobs multiplier" of renewable energy sources as opposed to conventional sources); Engel, *supra* note 61, at 71 (stating that a regional focus allows states to reap economic benefits); Rabe, *supra* note 33, at 3 (discussing economic development opportunities).

<sup>69.</sup> RAMSEUR, *supra* note 23. The four states are CO, FL, HI, and VA.

<sup>70.</sup> Of the seven WCI states, only Montana has not set statewide greenhouse gas reduction targets. Arizona, California, New Mexico, and Washington set targets before joining WCI; Utah set targets in June 2008. *See id.* at Table 1. Of the ten RGGI states, only Delaware has not set targets, and all but New Jersey and Maryland set targets before joining RGGI. *See id.* 

<sup>71.</sup> These two states are IL and MN. See id.

States that are more advanced in developing climate policies are also likely to have a strong interest in becoming part of a regional initiative. As they have moved ahead in climate policy, they may feel susceptible to criticism from constituents that they are shouldering the burdens of addressing climate change alone, thereby placing the state's economy at risk. In-state businesses are likely to worry that they will be subject to regulatory compliance costs while their competition, located in neighboring states, will not be. In other words, the state that moves ahead alone may be viewed as failing to act in its own self-interest, with potentially negative political ramifications for its leadership. In contrast, if the state can persuade other states to also move forward with regulation, particularly those with strong economic linkages, the leading state will be seen as trying to protect the state economy and state businesses from disproportionate costs while addressing the problem.

Finally, it is worth noting that the regional climate initiatives are built upon existing networks of information-sharing and policy-diffusion. The WCI has roots in a 2003 agreement among the governors of California, Oregon, and Washington, known as the West Coast Governors' Global Warming Initiative.<sup>72</sup> This initiative grew out of the Western Governors' Association, which has a history of bringing governors together to deal with issues of regional concerns, such as transportation, water, and energy.<sup>73</sup> RGGI grew out of the Ozone Transport Commission (OTC) created by the 1990 Clean Air Act amendments, which convened representatives from each of the states that ultimately participated in RGGI to address interstate transport of ozone pollution.<sup>74</sup> The OTC, in turn, established the NOx Budget program, a cap-and-trade program begun in 1999 to reduce nitrogen oxide emissions from power plants, that "closely resembles" RGGI.<sup>75</sup> The MGGA was signed at the 2007

<sup>72.</sup> Adam Rose, Thomas D. Peterson & ZhongXiang Zhang, Regional Carbon Dioxide Permit Trading in the United States: Coalition Choices for Pennsylvania, 14 PENN STATE ENVIL. L. REV. 101, 101-02 (2006), available at http://mpra.ub.uni-muenchen. de/13547/1/MPRA\_paper\_13547.pdf; see also West Coast Governor's Global Warming Initiative, PEW CENTER FOR GLOBAL CLIMATE CHANGE, http://www.pewclimate.org/node/4649 (last visited Aug. 8, 2009).

<sup>73.</sup> See, e.g., Initiatives and Working Groups, Affiliated and Related Organizations, WESTERN GOVERNOR'S ASSOCIATION, http://www.westgov.org/wga\_working \_groups.htm (last visited Aug. 8, 2009); Mission, Priorities and Strategies, WESTERN GOVERNOR'S ASSOCIATION, http://www.westgov.org/wga\_mission.htm (last visited Aug. 8, 2008).

<sup>74.</sup> Ann E. Carlson, *Iterative Federalism and Climate Change* 5 (UCLA PUB. L. & LEGAL THEORY RESEARCH PAPER SERIES, Research Paper No. 08-09).

<sup>75.</sup> Engel & Orbach, supra note 1, at 125.

Energy Summit of the Midwestern Governors Association.<sup>76</sup> As such, the climate initiatives have often grown out of prior state cooperation around environmental problems that required regional cooperation such as transboundary pollution in the Northeast and scarce water resources in the West.

## B. Efficiency and Leakage in Cap-and-Trade

A key factor in explaining the extent of regional collaboration in climate policy is found in the form of regulation that is most often contemplated to reduce greenhouse gas emissions: cap-and-trade regulation. The choice to use cap-and-trade regulation pushes decision-makers towards creating the largest possible regulatory jurisdiction so that efficiencies can be achieved and leakage can be reduced.

Through regional coordination, participating states can standardize the emissions markets to facilitate trade throughout the region.<sup>77</sup> With a larger and more diverse emissions market, more opportunities exist for low-cost emissions reductions. As a result, a regional approach promises greater economic efficiency for a cap-and-trade program. In general, the more states that join, the more likely it is that additional low-cost emissions reductions will be available to reduce the costs of compliance and enable a more efficient outcome.<sup>78</sup> A larger and more diverse market can also be expected to enhance market viability because it may reduce volatility induced by unexpected weather and fuel-demand conditions.<sup>79</sup>

In addition, a regional approach reduces opportunities for emissions leakage. Emissions leakage "occurs when economic activity is shifted as a result of the emission control regulation[,] and, as a result, emission abatement achieved in one location that is subject to emission control regulation is offset by increased emissions in unregulated locations." In a cap-and-trade program that regulates emitters in one state, emissions leakage would occur if an emitter chooses to either initially locate or

<sup>76.</sup> News, Governors Sign Greenhouse Gas Accord, MIDWESTERN GREENHOUSE GAS REDUCTION ACCORD, Nov. 15, 2007, http://www.midwesternaccord.org/news.html.

<sup>77.</sup> Engel & Orbach, *supra* note 1, at 125.

<sup>78.</sup> *Id.* at 126, 134.

<sup>79.</sup> PointCarbon.com, Preemptive Strike: The Future of Regional Trading Programs in the US 11 (Aug. 2, 2008), http://www.pointcarbon.com/research/cmana/cmana/1.954173 (discussing how weather—induced volatility in the emissions market of the EU Emissions Trading Scheme was dampened by its large geographic and sectoral scope) (last visited Oct. 23, 2009).

<sup>80.</sup> OFFICE OF AIR AND RADIATION, U.S. ENVIL. PROT. AGENCY, EPA 430-B-03-002, TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL GLOSSARY-3 (2003).

relocate outside the state because of the regulatory compliance costs.<sup>81</sup> The emissions are still produced, but they are produced outside the regulatory jurisdiction. Leakage undermines the environmental effectiveness of a program.

California, for example, has reason to be concerned about leakage and its unintended environmental consequences if it pursues a cap-and-trade program alone. First, it would be concerned that out-of-state electricity would replace or outgrow in-state electricity. Electricity imported into California is less expensive and more carbon-intensive than Californiaproduced electricity.82 If the cap-and-trade regime increased the cost of generating electricity in California, then one would expect electricity imports to grow. Ultimately, the electricity consumed in California might be associated with even more greenhouse gas emissions than would have been the case in the absence of the program. Similarly, industries that are energy-intensive might initially locate or relocate outof-state and then import their products to California.83 Again, those products consumed by Californians might be associated with higher greenhouse gas emissions, both because they were made with the input of more carbon-intensive electricity sources and because they were transported to California from the out-of-state location.

California's proposal of a "load-based" emissions cap for electricity providers addresses the potential leakage of electricity generation that serves California but not the leakage of industry that makes products for California.<sup>84</sup> A load-based cap limits the emissions associated with all the electricity consumed in California, whether it is produced in-state or imported.<sup>85</sup> The alternative, common in cap-and-trade programs, is to simply cap the emissions of polluters located within the regulated

<sup>81.</sup> Erik B. Bluemel, *Regional Regulatory Initiatives Addressing GHG Leakage in the USA*, in CLIMATE CHANGE AND EUROPEAN EMISSIONS TRADING: LESSONS FOR THEORY AND PRACTICE 226 (Michael Faure & Marjan Peeters, eds., 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1367929 (follow "download" hyperlink, then select "SSRN" hyperlink).

<sup>82.</sup> *Id*. at 233

<sup>83.</sup> *Id.* ("[E]missions leakage is a potential problem for California, especially for its energy-intensive industries such as refining"); Engel & Orbach, *supra* note 1, at 126 ("[A] regional approach . . . reduces economic losses due to the leakage of market share of fossil fuel intensive products, such as electricity, to industries able to export their products to the regulating state.").

<sup>84.</sup> Bluemel, *supra* note 81, at 246.

<sup>85.</sup> *Id.* at 232.

jurisdiction.<sup>86</sup> Yet while a load-based cap eliminates some concern about leakage from electricity generation, if a cap pertains only to one state, an electricity provider that also supplies electricity to neighboring states may be able simply shift the sale of its higher greenhouse gasemitting electricity to states that have not imposed a load-based cap.<sup>87</sup>

For these reasons, California has been motivated to seek the collaboration of other western states through the establishment of the WCI. In particular, California sought the participation of all eleven states that comprise the western power grid—the Western Interconnection. 88 While four states ultimately declined to participate (Colorado, Idaho, Nevada, and Wyoming), the regional assemblage addressed many of the concerns about leakage and the shifting of electricity within the region. Similarly, in the case of RGGI, "state policy analysts concluded that a regional approach to cap-and-trade would be more cost-effective given the strong interstate linkages in regional electricity distribution." While RGGI is more susceptible to leakage because it imposes a cap on the emissions of electricity generators that are located within the participating states, rather than a load-based cap on electricity providers, the program's regional scope is still useful in reducing leakage opportunities. 90

# C. The Regional Race to National Influence

One of the reasons commonly given for why individual states became so active in climate policy is that, in the absence of federal action and leadership during the early 2000s, state leaders were able to become political entrepreneurs and, thereby, gain national recognition for their leadership. In addition to providing political benefits to the leaders themselves, such leadership could benefit the state more broadly as the state's policies might be viewed as a model for future national policy. However, it is much more likely that a state leader would gain such recognition and that a sub-national approach would be viewed as a model for national policy if that approach had been shown to be capable

<sup>86.</sup> Lesley K. McAllister, *The Overallocation Problem in Cap and Trade Regulation*, 34 Col. J. Envtl L. (forthcoming 2009).

<sup>87.</sup> Bluemel, *supra* note 81, at 247.

<sup>88.</sup> *Id.* at 246. *See* Encarta.msn.com, The National Power Grid, http://encarta.msn.com/media\_701509077/the\_national\_power\_grid.html (last visited Oct. 25, 2009).

<sup>89.</sup> Rabe, *supra* note 33, at 6-7.

<sup>90.</sup> *Cf.* Bluemel, *supra* note 81, at 240-44 (arguing that RGGI's primary approach to reducing leakage is to keep compliance costs low).

<sup>91.</sup> Engel & Orbach, *supra* note 1, at 134 (describing the national recognition accorded to state leaders in climate policy).

<sup>92.</sup> Engel, *supra* note 61, at 62.

of transcending state boundaries. Thus, an additional explanation for the proliferation of regional initiatives is that states need to cooperate to engage in a regional race to influence the development of national policy. <sup>93</sup>

In the federal vacuum of climate policy that existed, states have likely viewed working together as their best route toward developing and projecting a model for climate change regulation that might ultimately be adopted at the national level. A regional approach would be much more likely to have such influence because it achieves the buy-in of governors and constituencies with differing political viewpoints. In the WCI, for example, four of the member states were headed by a Democratic governor when they signed on, and three were headed by a Republican governor.<sup>94</sup> As one commentator explained, "There may be some tipping point at which diffusion reaches sufficient numbers of states that the federal government concludes that it should respond by drawing from these state models and establishing some version of this on a national basis." States are, thus, motivated to partner because a state cannot build such a model alone.

There are several historical examples of how state leadership can influence national policy and thereby provide the state with certain benefits. At the time of the passage of a new federal clean air law in 1967, California had already begun developing rigorous standards for motor vehicle emissions. As a result, California became the only state in the 1967 law to be eligible to receive a waiver of federal preemption to set its own mobile source emission standards. Similarly, in 1989 California adopted a comprehensive Air Quality Management Plan to bring southern California into compliance with air quality standards, and this plan influenced the development of the 1990 Clean Air Act Amendments. The new federal provisions relating to alternative fuels,

<sup>93.</sup> *Cf. id.* at 64-65 ("Finally, state and local governments can magnify the importance of their climate change initiatives by banding together with other states and local governments to form regional coalitions or other interstate groups that address climate together").

<sup>94.</sup> The Republican governors were Gov. Schwarzenegger (CA); Gov. Richardson (NM); and Gov. Huntsman (UT).

<sup>95.</sup> Rabe, *supra* note 33, at 5.

<sup>96.</sup> *Cf.* Engel, *supra* note 61, at 62 (recognizing that states have had "prior success with influencing national environmental policy").

<sup>97.</sup> Jan Stevens, Air Pollution and the Federal System: Responses to Felt Necessities, 22 HASTINGS L.J. 661, 674-75 (1970-1971).

<sup>98.</sup> *Id.* at 675-76.

emission-control standards, and ride-sharing were all significantly affected by the California plan, and they bolstered and facilitated the implementation of the California plan.<sup>99</sup> In these situations, the state of California effectively "set the table" for federal policy and thereby benefited. When states join together as they have in the climate initiatives, the possibilities to influence national policy are even greater.

In the case of climate change regulation, if a national cap-and-trade policy is modeled after a sub-national cap-and-trade model of regulation, the benefits to the sub-national jurisdiction are likely to be even more direct. Actors in the "first-mover" sub-national jurisdiction might have access to tradable permits that would be marketable in the new national permit market. For example, the climate bill proposed by Congressmen Waxman and Markey would enable allowances issued by "the State of California or for the Regional Greenhouse Gas Initiative, or the Western

Climate Initiative" to be exchanged for federal allowances. <sup>101</sup> More generally, such actors would gain experience in an emissions trading program and be well positioned to take advantage of economic opportunities presented by the expansion of such a program to the national level. <sup>102</sup>

The possibility also exists that states may band together to try to hold back or restrain the development and adoption of rigorous national policy. Regional arrangements could be the "result of efforts to restrain states that are being too aggressive." The Midwestern Greenhouse Gas Accord is particularly susceptible to the charge that such a negative motivation may be at play in the case of some of its member states, or even in the regional agreement as a whole. As the most coal-dependent region of the country, one would expect that this set of states would want to restrain rather than further the adoption of rigorous greenhouse gas reduction policies at the national level. They might view their regional collaboration as being able to offer an alternative, more moderate model for national policy. This proposition is supported by their homepage introduction to the agreement: "Realizing the unique and major impact that the Midwestern states play in the emissions of carbon, these governors wanted to institute Midwestern practicality in the debate on

<sup>99.</sup> Sheldon Kamieniecki and Michael R. Ferrall, *Intergovernmental Relations and Clean-Air Policy in Southern California*, 21 Publius: The Journal of Federalism 143, 150-52.

<sup>100.</sup> Engel & Orbach, *supra* note 1, at 134-35. It is also possible, however, that early actors may not gain much in a future national regime, either because a cap and trade approach is not used, or because the regime gives little value to credits from subnational programs.

<sup>101.</sup> The American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (1st Sess. 2009).

<sup>102.</sup> Id.

<sup>103.</sup> Engel, *supra* note 61, at 59.

global warming."<sup>104</sup> Also, as mentioned above, only two of the MGGA states have set statewide emissions reductions targets.

#### IV. CONCLUSION

The state collaboration that has produced three major regional climate change initiatives to reduce greenhouse gas emissions presents a puzzle for environmental law. State cooperation is somewhat common where there is a shared regional resource that requires joint management, and the costs of collaboration are offset by the benefits that states derive from such joint management. However, for problems such as reducing greenhouse gases, where the benefits cannot be captured by the cooperating jurisdictions, theorists have consistently predicted state competition.

This Article discusses three possible explanations for the collaborative reality of state climate change regulation. First, states have economic and political reasons to diffuse their policy innovations and otherwise share and receive information. States on the receiving end perceive that such information offers economic development opportunities. States that share information and recruit partners to their approach gain political cover against accusations that their leadership is economically detrimental to the state. Second, states have been most interested in using a cap-and-trade approach, which can achieve greater efficiency through implementation over a large geographic area. The larger area enables inclusion of low-cost sources of emissions reductions, minimizes the problem of leakage, and may otherwise enhance market viability. Third, states have discovered that they must cooperate to offer a model that will be viable on a national scale. If they succeed in offering such a model, then the advantages that they accrue as first-movers may be significant.

The extent of collaboration that has occurred in the absence of federal policy bodes well for state action in the context of a future federal climate change regime. Given the extremely significant challenge that climate change presents, federal policies will not be sufficient. Rather, localities, states, and regions will need to continue to creatively engage with the problems that arise in both reducing greenhouse gas emissions and undertaking the kinds of activities that will be necessary for their

<sup>104.</sup> Midwestern Greenhouse Gas Reduction Accord Home Page, http://www.midwestern accord.org (last visited Aug. 21, 2009).

populations to adapt to climate change. Through the regional initiatives, the seeds of state engagement and cooperation in climate policy have been sown.