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# States on Steroids: The Intergovernmental Odyssey of American Climate Policy

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## Abstract

*Climate change has conventionally been framed as an issue that would be addressed by an international regime established through negotiation among nation-states. The experience of policy development in the decade following the signing of the Kyoto Protocol indicates that climate change also needs to be examined as a challenge of multilevel governance. The increasingly central role of state governments in American climate policy formation squares with recent experience in other Western democracies that share authority across governmental levels. This paper examines the American experience, considering factors that have contributed to a state-centric policy process and using that body of experience to assess competing strategic choices faced by individual states based on their mix of emission trends and policy adoption rates. In turn, the collective state experience allows for consideration of the varied political feasibility of competing climate policy tools that remain under active review in subnational, national, and international contexts. The paper concludes with a set of scenarios that explore different ways in which a state-centric system may be integrated with expanding involvement at the national level.*

**KEY WORDS:** climate change, environmental policy, federalism, intergovernmental relations

## Introduction

Most scholarly and journalistic analysis presents the odyssey of climate change policy in the United States as if America was a unitary system of government. This leads to a familiar tale, whereby the federal government signed the Kyoto Protocol in 1997, spurned ratification four years later, and neither the Clinton nor subsequent Bush Administration and respective Congresses have been able to agree to anything beyond climate research funding and voluntary reduction programs. At the same time, conventional analysis has assumed that climate policy would entail bargaining and implementation among nations, culminating in a world climate regime. More than a decade after the signing of Kyoto, it is increasingly evident that climate policy is proving far messier than prevailing depictions had anticipated. The Kyoto process is in tatters, attributable not only to American disengagement but also to an inability of many ratifying nations to honor their commitments. This is reflected in numerous failures to approach pledged emissions reductions, as in the Canadian and Japanese cases, or to successfully implement national or multinational policies, as in the stumbles of the Emissions Trading Scheme in the European Union. There also continues to be enormous uncertainty about engagement by developing nations, at the very point where China is primed to eclipse the United States as the world's leading national source of greenhouse gases.

But perhaps the biggest single surprise as climate policy continues to evolve is that in the American case and many others, it is becoming increasingly evident that climate policy constitutes an issue of federalism or multilevel governance. As the recent emergence of California Governor Arnold Schwarzenegger as a claimant to the title of "world leader" in the development of far-reaching climate policy attests, individual units across different federal or multilevel governance systems may have

more in common with one another in climate policy than they have with the neighboring units of their overall federation. Indeed, one can see stronger parallels between such jurisdictions as Connecticut and Sweden, Pennsylvania and Germany, New York and New South Wales, and North Carolina and Ontario than exists across many members of the same federation.

This paper will focus primarily on the American case, considering more than a decade of state and federal policy experience and attempting to distill lessons that could guide future policy development. First, it will offer an overview of American subnational policy development, attempting to provide a review of the tapestry of policies that have been enacted over the past decade and some of the key factors that have led to such a robust state response in the absence of federal mandates or incentives. Second, this will lead to a consideration of the divergent paths taken by the 50 states, reflected in their carbon dioxide emission trends since 1990 and varied levels of climate policy development. This section will explore the unique contexts facing various states, particularly the differing strategic considerations for them (and for their representatives in Congress) as they consider unilateral policy steps or the possibility of federal policy in the 110th Congress and beyond. Third, the collective state experience offers some possible lessons for future policy development at either subnational or national levels. In particular, we will see that there appears to be a nearly inverse relationship between those policies that policy analysts tend to endorse as holding the greatest promise to reduce emissions in a cost-effective manner and the political feasibility of respective policy options. These patterns could offer significant lessons for the future of climate policy development, outlining both challenges and opportunities for future policy whether enacted at the single-state, multistate, or federal levels. Finally, we look ahead and consider alternative scenarios for future development of American climate policy, building on recent experience to anticipate possible next directions (Selin & VanDeveer, 2007).

### **Toward a State-Centric American Climate Policy**

The recent trend toward state-driven policy is not unprecedented in American federalism. In many instances, early state policy engagement has provided models that were ultimately embraced as national policy by the federal government. This has been evident in a range of social policy domains, including health care and education, and can either result in federal preemption that obliterates earlier state roles or a more collaborative system of shared governance (Manna, 2006; Teske, 2004). In some instances, states have taken the lead and essentially sustained policy leadership through multistate collaboration and the absence of federal engagement. Such policy arenas as occupational licensure and regulation and oversight of organ donations have remained largely state-dominated, despite occasional federal exploration of legislation or regulation. To date, American climate policy is following the latter pattern, with prolonged federal inability to construct policy, leaving substantial opportunity for state engagement and innovation. At the same time, Congress continues to weigh a variety of policy options, many of which could ultimately encourage, constrain, or preempt existing state policies. However, the institutional impediments to any federal action remain significant, suggesting

that there may well be continued state latitude to play a lead role for some time to come. In turn, this could ultimately give a number of states a strong bargaining role in any future federal policy formation or implementation, given their sunk institutional and policy investments. Many states now possess a considerable body of climate policy expertise that may well rival or surpass federal institutions (Rabe, 2004, 2007b).

Many scholars scoffed at the very possibility of “bottom-up” American climate policy during the previous decade, but several factors have converged to place states in increasingly central roles. First, many states have framed early steps that would have the effect of reducing greenhouse gases as being in their economic self-interest. This helps explain the expanding state government interest in developing a set of technologies and skills to promote renewable energy, energy conservation, and expertise to foster a low-carbon economy. Indeed, virtually every governor has now embraced the notion of developing “home grown” energy sources, at least in part, in order to foster long-term economic development. This has resulted in an active exploration of various policy tools that might achieve these goals alongside reduction of greenhouse gas emissions. Second, a growing number of states are beginning to experience significant impacts that may be attributable to climate change, whether through violent storms, forest fires, species migration, prolonged droughts, or changing vectors of disease transmission. Some of these are having the classic effect of “triggering events” that create an impetus for a policy response, however modest the climate impact that any unilateral state efforts to reduce greenhouse gas emissions may be (Repetto, 2006). Third, some states have consciously chosen to be “first movers,” often taking bold steps with the explicit intent of trying to take national leadership roles on climate policy. In some instances, such as California’s legislation to restrict carbon emissions from vehicles and New York’s efforts in the northeast to establish a regional carbon emissions trading zone, states are also trying to establish models that will influence their neighbors to join them and possibly position themselves to influence any future federal policy. In this regard, states are similar to corporations; some seek an early and active role, sensing potential strategic advantages over their more recalcitrant competitors (Hoffman, 2006; Kamieniecki, 2006). Fourth, state capitals have proven very fertile areas for the development of epistemic communities and policy networks advocating climate policy. In many instances, earlier state efforts reflected leadership from higher levels of state agencies working in environmental protection, energy, or other areas relevant to climate (Montpetit, 2003; Rabe, 2004). These policy entrepreneurs continue to operate but increasingly partner with other forces, such as legislators and advocacy groups, to form policy networks that build support for policy strategies that are particularly appealing to an individual state (Selin & VanDeveer, 2007). Fifth, states also provide venues for alternative approaches to policy formation, including direct democracy and litigation that confronts federal institutions. Ballot propositions are proving an increasingly popular way to advance climate initiatives in cases where representative institutions stall. At the same time, the 2007 U.S. Supreme Court verdict in *Massachusetts et al. v. U.S. Environmental Protection Agency* indicates that a collective of states can wage and ultimately win an intergovernmental court battle that may serve to force a reluctant federal agency to designate carbon dioxide as an air pollutant. The decision in this case is already

triggering additional multistate efforts to use the federal courts as a venue to challenge other decisions by the private sector or federal agencies.

### **Variations in State Emission and Policy Adoption Trends**

None of these factors converge in identical ways in differing states. Indeed, no two states have uniform profiles in terms of actual rates of greenhouse gas emissions growth or climate policy adoption. Just as the nations of the world diverge on these dimensions, so do American states. In turn, as we shall see, the combination of emissions growth and policy development to date varies greatly among states and this may prompt them to consider different strategic positions. This may apply to either further state policy adoption or any bargaining position that they might assume in future negotiations over federal policy.

#### ***State Emission Trends***

The range of emission trends may be particularly surprising, when weighed against the widespread reporting of national averages for emission rates. With 1990 established as a near-universal baseline internationally, American emissions increased approximately 15 percent overall from that point through 2003. This reflects steady growth throughout the 1990s, with a somewhat slower pattern in more recent years. The most recent estimates suggest that American emissions have been essentially stable since 2003, but reliable state-by-state emissions data are not yet available. The overall pattern between 1990 and 2003 varied markedly when looking at the rates of change in the 50 states and the District of Columbia (see Table 1). One state, Delaware, is actually on track to meet the reduction targets that would have been imposed had the United States ratified Kyoto, and twelve other states have contained growth rates to single digits. These include several states such as California, Pennsylvania, New York, and Michigan that have very large emission bases and would rank among national leaders in emissions were they not part of a federation. At the same time, many other states, particularly those of the southeast and southwest, have registered rates of emissions growth that are double or greater than the national average.

Such a range of emissions is not unique to the United States, despite the tendency to focus only on national-level trends. Despite its ratification of the Kyoto Protocol, Canadian national emissions increased 26 percent between 1990 and 2003. Only Manitoba and Quebec approach those states toward the lower end of the growth continuum in the United States, whereas many others such as Saskatchewan, Alberta, and British Columbia, were far above the national average. Similar variability exists among the nations of the European Union, ranging from outright reduction (Germany and the United Kingdom) to major increase (Ireland and Spain). In that case, differential national reduction targets were negotiated as part of the price for ratification, but many individual nations have vastly exceeded their particular targets. In each instance, political leadership of individual jurisdictions (American states, Canadian provinces, and European Union member states) will be attentive to their emission patterns since 1990 and make that a factor in any intergovernmental bargaining over future emission reductions, credit for early

**Table 1.** State Carbon Dioxide Emission Trends, 1990–2003\*

	States below National Average			States above National Average			
	1990	2003	Percent Change	1990	2003	Percent Change	
Delaware	18	17	-5	Illinois	192	227	18
Louisiana	191	189	-1	Montana	28	33	18
District of Columbia	4	4	0	North Dakota	40	47	18
Hawaii	21	21	0	Texas	587	694	18
Connecticut	41	42	2	Kentucky	118	141	19
Michigan	180	183	2	Georgia	138	166	20
New York	208	214	3	Vermont	5	6	20
Pennsylvania	260	267	3	Maine	19	23	21
Massachusetts	83	86	4	Wisconsin	85	103	21
California	361	384	6	Iowa	63	77	22
Ohio	243	261	7	Rhode Island	9	11	22
South Dakota	12	13	8	Alabama	108	135	25
West Virginia	105	113	8	Minnesota	79	99	25
New Jersey	114	124	9	Arkansas	51	65	27
New Mexico	52	57	10	Idaho	11	14	27
Wyoming	57	63	11	Nebraska	33	42	27
Kansas	69	77	12	Alaska	34	44	29
Indiana	201	228	13	Mississippi	48	62	29
Maryland	70	79	13	Oregon	31	40	29
Washington	71	80	13	Virginia	94	121	29
Tennessee	105	121	15	Florida	186	242	30
Utah	53	61	15	North Carolina	110	144	31
Oklahoma	88	102	16	South Carolina	61	80	31
				Missouri	103	136	32
				Colorado	66	88	33
				New Hampshire	15	20	33
				Arizona	62	88	42
				Nevada	30	43	43

Source: U.S. Environmental Protection Agency (2007).

\*Fossil fuel combustion, million metric tons CO<sub>2</sub> (MMTCO<sub>2</sub>). Includes emissions from commercial, electric power, industrial, and transportation sectors.

reduction or stabilization of emissions, or selection of policy tools. In Canada, for example, the Stephen Harper government began in 2007 to explore ways to shift the baseline to a much later year, thereby trying to entice cooperation from provinces that could, in effect, be “forgiven” very high rates of emissions growth during the 1990s. But this faced prompt opposition from those provinces that felt they should be “rewarded” for registering lower rates of emissions growth.

### **Policy Adoption Trends**

The ways in which governments can enact policies that purportedly stabilize or reduce their greenhouse gas emissions is virtually limitless. As greenhouse gas emissions emanate from essentially every sector of the economy, a vast range of policies and sectors could come into play. However, our effort to measure the intensity of state climate policy development uses a measure from eight policy options that are prominently addressed either in current practice or the scholarly literature on climate policy options (Pew Center on Climate Change, 2007). In Table 2, we dichotomize the states by their rate of emissions growth since 1990 and also divide them according to low (zero to one) versus high (two or more) policy adoption rates from this census of eight possibilities. These policies include: renew-

**Table 2.** State Climate Policy Adoption and Greenhouse Gas Emission Trends

		Emission Growth Trends (1990–2003) <sup>a</sup>	
		High (>15%)	Low (<15%)
Levels of State Climate Policy Adoption <sup>b</sup>	High (2 or more policies)	10 States Arizona Minnesota Oregon	12 States California New Mexico Pennsylvania
	Low (0–1 policies)	22 States Alabama Florida Texas	7 States Louisiana Michigan West Virginia

<sup>a</sup>See Table 1.

<sup>b</sup>Measures the adoption of the following policies within a state: Renewable Portfolio Standard, Carbon Tax, Renewable Fuel Standard, Carbon Cap-and-Trade, Statewide Emissions Target, Mandatory Emissions Reporting, Litigation (formal support of Massachusetts in *Massachusetts v. EPA*), and California vehicle emission standards.

able electricity mandates or portfolio standards, carbon taxes, renewable fuel mandates or equivalent programs that mandate expanded use of biofuels, carbon cap-and-trade programs, statewide emissions reduction targets, mandatory reporting of carbon emissions, formal participation as a co-plaintiff in the 2007 Supreme Court case on carbon dioxide regulation, and adoption of the carbon emission standards for vehicles enacted by California.

This demarcation essentially divides the nation into two blocs. Twenty-two states representing about one-half of the American population have enacted two or more of these eight climate policies, indicating a considerable degree of political support for policy and formal engagement in climate policy adoption. A few of these states, such as California, Massachusetts, Connecticut, and New York, have adopted as many as six or seven of them. In some cases, states have revisited early policies and decided to “raise the bar,” elevating initial emission reduction targets or earlier commitments to renewable energy. The remaining 28 states represent the other half of the American population and have either zero or one such policy in operation, indicating less political support for policy or formal engagement in climate policy adoption. Over the past three years, at least eight states have moved from the “low” policy cell to the “high” policy cell. That trend appears likely to continue given the volume of activity on various climate policies in many state legislatures.

### Strategic Considerations Emerging from the Intersection of State Emissions Growth and Policy Adoption

These rather fundamental differences between various states may be instructive in considering their receptivity to future policy initiatives, whether undertaken unilaterally, in concert with regional neighbors, or in response to possible future federal government actions. Table 2 represents the convergence of these two dimensions of emissions growth and policy adoption. Each of the four quadrants reflects a different blend of emissions and policy adoption trends and includes reference to the total number of states that currently fall within it as well as a sample set of cases. The convergence of these factors illustrates the diverse contexts facing individual states as they contemplate future initiatives or engagement in intergov-

ernmental bargaining as Congress begins to weigh a wide range of possible options. They further suggest that individual states may have considerable reason to view various climate initiatives in very different ways, depending upon where they stand in relation to the 1990 baseline that is used almost universally in American and international climate policy deliberations and whether or not they have made any significant commitment to policy adoption and implementation. Just as private businesses and industries are increasingly thought to adjust their strategies based on their emissions levels and internal incentives for action or inaction (Layzer, 2007, pp. 209–211), states may face similar strategic choices and be influenced by their current context. Subsequent sections will review each of these quadrants and consider possible strategic considerations as states approach the possibility of serious federal legislative engagement and consider their desired impact on any such policy output.

### ***Low Emissions, High Policy***

States that have sustained low rates of emissions growth while pursuing significant policy adoption may be eager to exert their influence over neighboring states and federal policy debates. They will be adamant that 1990 remain sacrosanct as the emissions baseline and insist upon maximal credit for achieving “early reductions” and for being “first movers.” Pulling other states or the entire nation into their orbit is likely to maximize their leverage on overall emissions reductions. This might also serve to provide them with economic advantages, having already invested in technology and staff expertise associated with policy adoption and thereby forcing recalcitrant states to launch the process of “catch-up.” Such states will be keen to make sure that any future federal policy “follows their example,” both to ease transition costs and maximize credit-claiming opportunities for political leaders.

California perhaps epitomizes this quadrant, taking the long-standing term of “California effect” in American intergovernmental policy leadership to new lengths in climate change (Vogel, 1995). The state has long played a pioneering role in environmental protection and other areas of policy, often stimulating cross-state diffusion and ultimate embrace at the federal level. In climate, it has literally “run the table” by adopting virtually every kind of climate policy imaginable. Politically, this allows Governor Schwarzenegger and other state leaders to claim credit for “global leadership” on climate policy, even pushing Constitutional bounds in ways that allow for direct negotiation with other national heads of state or subnational governments outside the United States (Adams, 2006; Breslau, 2007). The state first entered into the climate policy arena in 1988, having already achieved one of the lowest rates of per capita greenhouse gas emissions because of major energy conservation efforts in the prior decade. However, it has since followed with a veritable blizzard of climate initiatives, including the 2006 Global Warming Solutions Act that established bold statewide reduction commitments over coming decades and set in motion a carbon cap-and-trade program with wider scope than attempted in any Western democracy to date. In turn, California state government is being reconfigured to begin to foster the intersectoral and interagency collaboration that will be necessary to secure implementation, including hiring of dozens of new state staff.

It has become increasingly clear that California intends for this massive effort to achieve additional emissions stabilization, minimize any internal costs, and maximize its economic development opportunities. This is reflected in a number of state policies that are designed to influence neighbors as well as national—and even international—policy. Evolving interpretation of California statutes to guide regulation of vehicle emissions would clearly impinge most heavily outside of the state. The state has a relatively small vehicle manufacturing sector but a good portion of it is concentrated on high-fuel-efficiency vehicles, which would be boosted by regional or national adoption of the California standards (Rabe & Mundo, 2007). At the same time, these policies are designed to apply to all vehicles registered in California, allowing the state to influence emissions standards for vehicles purchased outside of the state. In turn, California's evolving efforts to markedly reduce carbon emissions from utilities are being designed so that regulation would be implemented through "performance standards" that would force any utilities from other states or nations that might export electricity into the state to adhere to California standards. These approaches raise a series of political and Constitutional issues but the California case suggests that, at least in some instances, a low-emission and high-policy adoption footing can allow for simultaneous pursuit of environmental improvement and rent-seeking. In this regard, California is somewhat unique given its sheer size in terms of populace and economic heft. However, one can see somewhat similar strategic thinking in play elsewhere, particularly Pennsylvania, New York, and other northeastern states that are also trying to position themselves as models for regional and national policy adoption and emerge as "national climate policy leaders." All such states are on record as being concerned about climate change but want their emissions track record to be rewarded and their early steps toward policy adoption to have considerable leverage.

### ***High Emissions, High Policy***

The adoption of multiple climate policies does not guarantee their effectiveness or their ability to achieve significant emission reductions given other competing factors. Indeed, states such as Arizona, Minnesota, and Oregon, among others, have adopted multiple forms of climate policy, including particularly early initiatives in the latter two states. However, their rate of emissions growth has remained well above national averages. States with this blend of emissions and policy development will likely approach intergovernmental negotiations from a somewhat different position. They will be more enthusiastic about modification of the 1990 baseline and seek credit for early policy initiatives even if these had little effect on reducing emissions growth. They might well seek special treatment or status for policies that were enacted more recently and are only moving into preliminary stages of implementation. This might include allowance of a two-tiered system, whereby states would be free to exceed federal minimum standards or released from adherence to any national requirements through a waiver process.

Arizona provides an illustration of this phenomenon. It has established in recent years a series of renewable energy policies and entered into a number of collaborations with California that range from negotiation of a regional carbon cap-and-trade program to formal endorsement of its carbon emissions regulations for



vehicles. However, it has the second highest increase in emissions of any American state between 1990 and 2003, with a rate of growth that is more than four times that of one of its neighbors, New Mexico. The state has experienced particularly steep emission growth in transportation. It will likely endorse federal policies that concentrate emissions reductions in that sector, given the small presence of vehicle manufacturing in the state, as reflected in its formal adoption of the California vehicle emissions legislation. In turn, Arizona has decided to use 2000 as the baseline for its statewide emission reduction goals in coming decades, providing a more conducive starting point for claiming any future reductions by ignoring the developments of the prior decade.

Minnesota's emissions growth is similarly dominated by the transportation sector and so it might take a position similar to that of Arizona. In turn, much of Oregon's emissions growth is in the electricity sector, due in part to diminished output from nuclear and hydro plants, which could lead it to support a different set of policies. All of these states tend to view themselves as "mini-Californias," supporting cutting-edge policy experimentation and in the vanguard of national leadership on the climate change issue. However, they will want to be protected against penalty for any substantial emissions growth and be rewarded for early policy adoption in the event of future federal engagement.

### ***High Emissions, Low Policy***

More than 20 states fall into the quadrant with above-average rates of emissions growth and low levels of policy development. Many of these states are located in the southeastern portions of the nation, including Alabama, Florida, and Texas. They have generally experienced steady rates of population and economic growth, tend to have expanding manufacturing industrial bases, and are heavily reliant on coal for electricity. In turn, they are generally thought to have some of the weakest potential capacity for renewable energy and have historically taken few, if any, steps to promote alternative sources or energy efficiency. Moreover, they tend to be among those states that receive low rankings for their levels of commitment or institutional capacity to pursue environmental protection (Resource Renewal Institute, 2001).

Many of these states have been nonplayers in climate policy, although Texas and a few others have adopted single policies of some consequence. In some instances, these states may literally adopt policies with significant greenhouse gas reduction potential, as in the case of a renewable portfolio standard that was enacted in Texas in 1999 and expanded six years later. However, this particular policy was not adopted for its climate protection potential, instead supported for such reasons as energy supply diversification and reduction of conventional air contaminants (Rabe, 2004). Its prospects for passage might have been jeopardized by explicit labeling as climate policy, a pattern which has also been evident in some other states. In such instances, state proponents will sustain a "stealth" approach and emphasize other attributes, unless it proves advantageous for them to become more explicit about having taken some form of early action.

Consequently, this set of states represents a substantial area of the nation that is essentially the converse of the Northeast or Pacific West. Not only is their emissions

growth high and policy adoption minimal, but they may view virtually any federal climate policy as a possible threat to their economic well-being (Rabe & Mundo, 2007). They are likely to oppose any policy that would impose significant costs on them and would be particularly mindful of possible redistributive effects that could result from mandates to purchase carbon credits or renewable energy credits from outside their state and region. Moreover, they would have significant incentive to adjust the emission baseline to a date well after 1990 and seek substantial federal subsidies to compensate against any possible adverse economic consequences from federal policy implementation. They are likely to be hostile to any effort to apply ambitious state policies, such as those emanating from California, on a national basis.

Ironically, many of these states may be among the most vulnerable to climate change, at least over the next few decades. Coastal states from the Carolinas to Texas have become particularly concerned about growing risk from severe weather episodes and some significant temperature increases. Several such states are enmeshed in discussions of the future of insurance coverage for developed property, particularly from coastal property owners who are facing steep rate hikes because of increased vulnerability. This issue has begun to move climate change onto the agenda in such Gulf Coast capitals as Tallahassee, reflecting a series of new initiatives during 2007 and illustrating the potential for states to undertake major policy shifts in relatively short order. Each year of the past decade has seen some additional states take major policy adoption steps and this pattern could indeed continue, whether attributable to triggering events or other factors.

### ***Low Emissions, Low Policy***

The odyssey of state experience with greenhouse gas trends reveals that it is indeed possible to attain stable levels of emissions in the absence of climate policy designed to achieve these goals. In seven states, including Louisiana, Michigan, Indiana, Ohio, and West Virginia, there has been virtually no adoption of any greenhouse gas reduction policies and yet all have emission growth rates well below the national averages between 1990 and 2003. Louisiana and Michigan emissions, for example, are largely unchanged over this period (see Table 1). However, states in this quadrant are not exactly models for effective transition to a less carbon-intensive society in that much of their stability is attributed to economic stagnation. In the Michigan case, an actual increase in emissions in most sectors is offset by significant outright declines in manufacturing-based emissions since 1999, reflecting the marked contraction in that sector. Louisiana has undergone its own transitions, and both states may have declined even further because of continuing economic contraction in more recent years for which data are not yet available.

In some respects, this parallels the “East German model” for emissions reduction, drawing comparisons with those portions of Eastern Europe, which easily met Kyoto goals through industrial collapse in the early 1990s. Any such states will approach climate policy with trepidation, particularly inclined to combat any policies that might further weaken vulnerable economic sectors. In Michigan, this is already manifest in an aggressive effort by its congressional representatives to weaken new federal restrictions on vehicular fuel economy, on the heels of the state

government's decision to formally support the federal position in opposition to Massachusetts and other states in the 2007 Supreme Court case on climate change. Indiana and Ohio also have vulnerable vehicle-manufacturing sectors and can be expected to take a similar posture, hoping to shift any climate regulations toward other sectors where they have less at risk. This may explain the strong push in these states for biofuel policies at the state and federal levels, as this is seen as favoring traditional American vehicle manufacturers who have invested in technologies to allow for expanded use of such fuels.

Consistent with the biofuel experience, states in this quadrant are likely to seek minimal interference with threatened industry and also insist on very favorable financial terms to compensate them for any possible costs that might be imposed by federal policy. States of all sorts are keen to maximize federal transfer payments but the demand may be particularly great in these states, given their relative economic position. Some of these, including Kansas and West Virginia, have actively called for expanded federal support to develop potential renewable energy sources that are particularly promising within their boundaries. They contend that they lack the resources to develop these on their own, given their economic circumstances. Relatively recent expansion of interest in possible climate policy adoption in several of these states, such as Michigan and Ohio, is based almost exclusively on anticipated economic development potential. At the same time, such states will want to make sure that any future policy accords them maximum "credit" for their low rates of emissions growth. Hence, the 1990 baseline will remain sacrosanct and states in this quadrant will welcome any opportunities for credit-trading programs that could deal them a favorable hand, similar to Eastern European nations and Russia, which have attempted to maximize the value of their "hot air" credits.

Consequently, the combination of emission trends and policy adoption could influence future state action, whether it entails unilateral state policy or efforts to shape the direction of future federal policy. This variability may serve to complicate any consensus on future federal policy, given dramatically different strategic considerations facing different states and possibly different regions of the nation. At the same time, as we shall see, recent state experience reminds us that different types of climate policies may generate very different political responses that transcend the particular jurisdictional context. Some policies may be anathema whereas others may have considerable appeal across a diverse range of states and regions.

### **Climate Policy Selection: Economic Desirability versus Political Feasibility**

The expanding body of state experience in climate policy may afford insight into the political prospects for future enactment of various policy instruments intended to reduce greenhouse gas emissions, whether through expanded state adoption or eventual embrace in some form by the federal government. As discussed, greenhouse gases emanate from every sector of economic and social activity, opening up the possibility of an almost infinite number of possible policy interventions. These run the gamut from more conventional command-and-control policies that emphasize rigid regulations and standards to economic-based policies that allow flexibility as long as overall emission reduction goals are met. States clearly have substantial latitude to choose from this range of policy tools, offering an indicator of how they

fare when placed into a political context. Many scholars have noted a general shift in various areas of environmental protection toward the latter set of policies, particularly in the American context (Fiorino, 2006; Mazmanian & Kraft, 2008). This trend is energetically embraced in much of the scholarship on climate policy, with widespread endorsement of policies that make use of market-based mechanisms to maximize the likelihood that any reductions will be produced in as cost-effective manner as possible (e.g., Aldy & Stavins, 2007; Congressional Budget Office, 2007; Fischer & Newell, 2007; Jaccard, Nyboer, & Sadownik, 2002; McKibbin & Wilcoxon, 2002; Stewart & Wiener, 2003; Victor, 2004).

However, the preferences of scholars, particularly economists, are not readily translated into new policy. Indeed, climate change may well illustrate the confrontation between the pecking order of policies, as endorsed by most economists and kindred scholars in other social science disciplines, and the reality of gaining political support for various policies through representative institutions stocked with officials who must contend with electoral realities. In short, those policies that tend to maintain the strongest base of support from policy analysts appear to have the greatest difficulty of being adopted by state legislators and governors. In turn, those policies that have many features of more traditional approaches that have been long criticized by policy analysts are far more successful in securing significant support from elected officials.

In some respects, as Table 3 indicates, the relationship between the “economic desirability” and “political feasibility” of climate policy options may be nearly inverse based on American state experience to date. Table 3 calculates the horizontal dimension of economic desirability through an extensive review of scholarly climate policy literature that compares various policy alternatives. This entails a content analysis of nearly 60 scholarly books, articles, and reports published between 2000 and 2007 that formally compare the economic desirability of competing climate policy tools. This focuses primarily on leading tools under consideration for electricity generation and manufacturing, although they could easily be transferred over to other sectors. In turn, Table 3 also considers the “political feasibility” of competing tools through a simple measure of the number of states that have formally adopted them. This uses legislative action in 50 statehouses as a proxy measure for the political viability of alternative policies. It calculates the vertical dimension of political feasibility by a measure of the number of states that have adopted a particular policy, ranging from low (0 to 9 states) to medium (10 to 19) to high (20 and above).

**Table 3.** Economic Desirability and Political Feasibility of State Climate Policy Tools

		Economic Desirability <sup>a</sup>		
		High	Medium	Low
Political Feasibility <sup>b</sup>	High			Renewable portfolio standard (25)
	Medium		Cap-and-trade (11)	
	Low	Carbon tax (0) <sup>c</sup>		

<sup>a</sup>Reflected in climate policy literature review.

<sup>b</sup>Measured by number of states adopting policy: 0–9—Low  
10–19—Medium  
20 and above—High

<sup>c</sup>Excludes public benefits charges/social benefits funds due to modest scope.

If the American state experience with climate policy to date is representative of other polities, it raises important questions about the political viability of those policies that might deliver emission reductions in the most cost-effective manner possible. In particular, this experience suggests that state governments are extremely reluctant to impose strategies that are explicit about any costs that will be imposed, particularly if they are likely to be evident at the point of product purchase or utility bill payment. Instead, they may have considerable incentive to produce far more complex policies, which may require greater overall costs but allow them to be less visible either by being hidden or spread out over a longer period of time. This pattern may well carry over to other polities, including those of governments in other multilevel systems such as Canada and the European Union (Rowlands, 2007).

### ***Economic Attractiveness, Political Anathema: Pity the Carbon Tax***

A review of diverse literatures on climate policy indicates a very broad consensus among scholars regarding the desirability of using carbon taxes as a central approach to climate policy. In 2007, a *Wall Street Journal* survey of leading economists showed overwhelming support for carbon taxes as the preferred tool for addressing climate change. "A tax puts pressure on the market, rather than forcing an artificial solution on it," noted one of the survey participants in a representative comment. In turn, carbon taxes have been formally endorsed by a who's who of very diverse economists who often agree on little. Harvard economist Gregory Mankiw, who chaired President Bush's Council of Economic Advisors between 2003 and 2005, has established a pro-carbon tax blog, known as the Pigou Club Manifesto, which has been endorsed by such diverse luminaries as Gary Becker, Martin Feldstein, Thomas Friedman, Alan Greenspan, Paul Krugman, Anthony Lake, William Nordhaus, Richard Posner, Jeffrey Sachs, Isabel Sawhill, Lawrence Summers, and Paul Volcker, among many others. As Edward Snyder, dean of the University of Chicago Business School has noted, "We need to recognize carbon is a [sic] 'bad,' tax it, and let the market work" ("U.S. consumers," 2008).

In practice, such taxes would be based on the carbon content in respective fossil fuels, presumably establishing a higher cost for a similar unit of coal versus oil or natural gas given the high carbon levels of the former. In theory, they give consumers incentives to use less carbon-intensive energy, but do so without imposing uniform constraints on citizens or industries. In turn, it is thought that the establishment of such a tax would be relatively straightforward and that compliance would be high because it would be applied at the point of purchase of carbon-based energy sources. All 50 states clearly have Constitutional authority to establish multiple forms of carbon taxes as they have long used a combination of sales and excise taxes for gasoline and can use their considerable power over utility regulation to apply taxes to electricity usage. The federal government also holds vast authority to move in this direction if it was so inclined politically.

One might anticipate that the intellectual consensus behind carbon taxation, the need in many states for additional revenue, and the growing saliency of the climate change issue in many states would create a groundswell of sorts behind some form of carbon taxation. However, there is no evidence to suggest that any state has

decided to make carbon taxes a central plank of its climate protection strategies. The lone American jurisdiction that has taken such a step is Boulder, Colorado, which enacted an explicit carbon tax through a 2006 ballot proposition that will generate revenue to help underwrite the city's climate protection program (Arrandale, 2007). However, Boulder appears likely to remain an anomaly. Indeed, California, the very state synonymous with an aggressive, across-the-board approach to greenhouse gas reduction has essentially put every imaginable climate policy into play with the conspicuous exception of carbon taxation. On the same day that Boulder voters approved their carbon tax in November 2006, California voters decisively rejected Initiative 87, a ballot proposition that would have increased taxation of oil produced within the state.

In the arena of gasoline, all states have maintained some form of taxation, with most of that revenue used to support highway maintenance and expansion. In 2006, the average state gas tax was 21 cents per gallon, which is imposed alongside a federal gasoline excise tax of 18.4 cents per gallon (American Petroleum Institute, 2006; Dernbach & the Widener University Law School Seminar on Energy Efficiency, 2007). The actual rates have changed only modestly over the past decade and state tax policy analyst John Petersen has noted that they are not indexed to inflation or changes in gasoline prices. As a result, "the value of the taxes has been declining in real terms over the years" and is actually lower in price-deflated terms than it was in prior decades (Petersen, 2007). Some states have explored suspending their gasoline taxes in the face of climbing prices. Consequently, there does not appear to be much political appetite for addressing this area of possible carbon tax development.

Electricity taxation is somewhat different in that 18 states have established some form of specialized taxation beyond conventional sales taxes, and at least some of the collected revenues generally are earmarked for energy efficiency programs or renewable energy development. These programs range from 0.03 to 3 mills per kWh, with one mill equivalent to one-tenth of one cent (Dernbach & the Widener University Law School Seminar on Energy Efficiency, 2007, p. 10025). These programs generate between \$8 million per year in Illinois to \$440 million per year in California, and the average cost per residential household across these 18 states is quite low. They are sufficiently modest as to have little likely impact on carbon consumption, serving instead as a funding source for new energy initiatives.

Perhaps the most revealing aspect of these policies is that they are universally not referred to as taxes in authorizing legislation or their inclusion on customer bills. Instead, they tend to be characterized by terms such as "social benefit charges" or "public benefit fees" and a number of states do not itemize them on customer electricity bills. All have been authorized through either legislative action or decisions by state public utility commissions. They have been designed to sustain a low-enough level of taxation and are given a sufficiently innocuous title so as not to trigger anticipated opposition to new energy taxes. This "stealth" quality raises a number of interesting questions about future prospects for carbon taxes at either state or federal levels, underscoring the political complexities involved in being explicit about their function or setting them at levels sufficiently high to have a realistic capacity to deter energy consumption.

***Economic Shortcomings, Political Attractiveness: Renewable Energy Mandates***

Renewable portfolio standards (RPSs) may represent the near-complete converse of carbon taxes in terms of economic desirability and political feasibility as a climate policy option. They require that all providers of electricity within a state increase the amount of power that they derive from renewable sources over time. Most of these policies steadily increase the total percentage or volume of electricity that must come from renewables and establish financial penalties in the event of non-compliance. This is representative of a body of policies that follow a command-and-control pattern. Related climate policy options include renewable fuel standards that mandate increased levels of biofuels and emission control policies that mandate use of a particular technology or achievement of an identical level of emission reduction from all regulated sources.

Just as a large range of climate scholars are enamored with the concept of carbon taxation, many view policies like RPSs with trepidation on economic grounds. Such policies are generally seen as more expensive per unit of greenhouse gas emission reduction, in that they mandate use of technologies that may be considerably more expensive than traditional electricity sources. This is particularly a concern as RPSs become complex, with the so-called “carve-out” provisions that require not only an overall level of renewables but supplemental commitments to also expand more expensive renewable sources such as solar power (Rabe & Mundo, 2007). In turn, it remains very difficult to discern the actual carbon-reduction impact of RPSs because it is not always clear which type of existing source is being supplemented and because the policy does not reduce demand for electricity. This issue is especially significant in those instances where the definition of renewables includes energy sources, such as biomass and animal waste, which have questionable greenhouse gas reduction benefits. Concerns about the cost-effectiveness of this tool are reflected in a number of early studies on actual RPS performance, even in cases where renewable capacity is high and overall cost is below national averages (Chen et al., 2007; Dobesova, Apt, & Lave, 2005). These concerns are further compounded if jurisdictions adopting RPSs take steps to assure that newly mandated renewables are generated within their boundaries, even if that produces higher-cost electricity than through out-of-state importation. As one prominent study of competing climate policy tools concludes, “The RPS may be one of the less efficient means of achieving greenhouse gas emission reductions. Unlike a more flexible carbon cap, it does not reward generation from non-renewable sources of low carbon power, and rewards energy conservation only very weakly” (Bushnell, Peterman, & Wolfram, 2007).

Any misgivings over RPSs from an economic standpoint have not served as a stumbling block to their rapid adoption and diffusion. Indeed, of the eight major climate policies outlined in Table 2, RPSs have clearly been the most popular politically. They have been approved in 25 states and the District of Columbia, representing well over half of the nation’s congressional districts. RPSs have become operational in every section of the nation except for the Southeast, although North Carolina enacted such a policy in 2007. Moreover, they are under active consideration in several other states and nearly half of the current RPS states have revisited their earlier enactments by setting more ambitious goals through legislative reau-

thorization. Many states are establishing very ambitious targets, such as 25 percent in New York by 2013, 20 percent in Colorado and New Jersey by 2020, 18 percent in Pennsylvania by 2020, and 15 percent in Arizona by 2025.

It is not clear that states adopting RPSs have conducted systematic economic analyses or carefully assessed their capacity to reach these various targets (Chen et al., 2007). In turn, a number of states have faced early implementation problems, ranging from local resistance to the siting of renewable generating facilities or transmission capacity to pressures from supporters of particular renewable energy sources to receive increasingly favored treatment in RPS implementation (Rabe & Mundo, 2007). All raise added concerns over long-term economic impact of these policies and questions of whether neighboring states can work collaboratively to establish common renewable energy markets or instead erect barriers to discourage cross-border movement and purchase.

None of this has dampened political enthusiasm for the RPS approach, which may be attributable in part to the fact that it is commonly framed as delivering multiple benefits, only one of which is climate change. Most states enacting RPSs have characterized them as strategic investments in future technologies that could provide long-term economic benefits. In turn, renewable energy is routinely portrayed as far more labor intensive than conventional electricity, for which imported fuel costs are high. This invariably leads to a framing of renewables as a source of within-state job creation. At the same time, various states have emphasized other co-benefits, including diminished release of conventional air contaminants through transition to new electricity sources and reduced dependence on other jurisdictions to sustain a supply of fossil fuel or uranium. Yet others have emphasized the desirability of sending early “market signals” that encourage development of energy technologies that could provide long-term benefits of accelerated energy system transformation.

Perhaps most significantly, RPSs are framed as essentially cost-free in political debates, with any added costs “passed along” to electric utilities, even though consumers will likely pay any difference for an electricity supply that has a higher level of renewables, whether they realize it or not. As one team of analysts of the early experience with these programs concluded, RPSs “are attractive politically because they accomplish multiple objectives with one policy, and are not perceived as a tax” despite the fact that they are likely to prove “somewhat more expensive” than more market-based strategies such as carbon taxes (Dobesova et al., 2005, p. 8583). This may explain why RPSs continue to draw broad, bipartisan support in states with every pattern of partisan control and have also been enacted via ballot initiatives in Colorado and Washington State.

In addition, this political calculus that perceives an RPS as offering environmental, economic, and political benefits, however spurious in practice, may also explain why this is the one climate policy tool that has formally been embraced at the national level by at least one branch of Congress. In both 2003 and 2005, the Senate approved creation of a national RPS that would reach the 10 percent level by 2020 and allow for a two-tier system whereby states could seek higher levels through their own policies if they desired. These measures died in conference proceedings with the House of Representatives, but they remain the first instances in which either chamber voted in favor of a nonvoluntary climate measure (Rabe, 2007b). In 2007,



the House took the lead and passed a more ambitious version of a federal RPS, although it died in the Senate. It is thus no surprise that, while a carbon tax appears to be every bit the nonstarter at either statehouse or federal level, the prospects for continued state diffusion and even some version of a federal RPS remains a good deal higher. Similarly for mobile sources, direct taxation of carbon fuels has little, if any, political traction in any American capital, whereas some form of regulatory approach that mandates increased vehicular fuel efficiency or carbon emissions reduction appears to have greater political allure. This latter development is reflected in both evolving state policy and early actions of the 110th Congress.

### ***Moderate Economic and Political Attractiveness: Carbon Cap-and-Trade***

Emissions trading through some version of a carbon cap-and-trade system has emerged as a reasonably attractive policy option from both an economic and political perspective. Economists and policy analysts tend not be quite as effusive concerning cap-and-trade as carbon taxes, but they tend to characterize this approach as a very desirable alternative. Indeed, many policy analysts have championed such a policy design for many environmental problems, based in part on the extensive and near-euphoric assessment of the American sulfur dioxide emissions trading program that was launched under Title IV of the 1990 Clean Air Act amendments. Such a policy could theoretically be applied to specific sectors that generate carbon emissions, such as electric utilities or an entire economic and political system. Ironically, this approach was actively pushed by the American federal government as a model for international climate policy during the negotiations that led to the Kyoto Protocol.

Cap-and-trade proponents emphasize that it injects far more flexibility into emissions reduction than conventional command-and-control approaches and holds considerable promise for achieving cost-effective reductions. Under cap-and-trade, an overall budget for carbon releases is established and gradually reduced over time. Once emission allowances are allocated to individual sources or jurisdictions, they are then free to negotiate transactions to allow for the most inexpensive possible reductions. These may be achieved, at least in part, through the so-called offsets, such as carbon sequestration through tree planting or subterranean storage. As David Victor has noted, “Launching an emissions trading system requires creating a new form of property right—the right to emit greenhouse gases—and institutions to monitor, enforce, and secure those new property rights” (Victor, 2004, p. xii).

This approach also has considerable political appeal, reflected initially in its adoption in the European Union under the Emissions Trading Scheme and subsequent proposals in Congress. Eleven states have made some level of commitment to a cap-and-trade program, ten of which are working through the Regional Greenhouse Gas Initiative (RGGI) that is attempting to establish a regional emissions trading zone for utility sector emissions in the northeast. California Governor Arnold Schwarzenegger has also interpreted the state’s 2006 climate legislation to allow for development of a comprehensive cap-and-trade system. In turn, both RGGI and California are keen to expand their coverage to include as many of their neighbors as possible, and it is quite plausible that the total number of states

participating in a cap-and-trade program will expand further. However, emissions trading does not appear to retain as strong a base of political support as tools such as RPS. Not only are the number of RPS states more than double that of states pledged to cap-and-trade, but prior U.S. Senate votes over a national carbon trading system, most notably through iterations of the proposed Climate Stewardship Act, have received considerably fewer votes than previous proposals for a national RPS (Rabe, 2007b).

At the same time that cap-and-trade blends a reasonable level of economic and political appeal, its Achilles heel may be its extreme complexity and steep implementation challenges. Whereas both carbon taxes and RPSs are relatively straightforward policies to implement, whatever their shortcomings either politically or economically, that is simply not the case for carbon cap-and-trade. The early experience with this policy in the implementation stage underscores that it has features of what political scientist Charles Jones once characterized as “policy beyond capacity” (Jones, 1975). This early difficulty may be exacerbated by the very weak intergovernmental institutions established to date to secure interjurisdictional efficacy.

The economic elegance of cap-and-trade quickly dissolves once one moves toward actual policy development and implementation, at least based on early experience in the United States and elsewhere. In Europe, the ETS failed to establish an institutional structure that might have allowed it to run effectively. Each member of the EU was permitted to allocate and monitor its own emission allowances, without any overarching authority in place to assure accuracy and integrity. National compliance plans were loosely structured and repeatedly violated in implementation, with few, if any, consequences from the EU or its member nations. Early North American experience with the same tool underscores these difficulties. In RGGI, multistage negotiations have proceeded for more than four years, building on a history of northeastern regional collaboration on a wide range of environmental and energy issues. What has emerged is a set of provisions in a treaty-like agreement, endorsed by the ten signatory states and being considered by others. However, each state must still secure formal support politically, whether through legislation or formal executive action before it can begin to move forward on implementation. In turn, many key elements of the system, such as whether emission allowances should be auctioned or distributed without charge and the methods of curbing carbon emissions from electricity generated outside of the RGGI zone, remain unresolved and highly contentious. At the same time, RGGI features a dizzying array of provisions that address such issues as offsets, “early reduction credits,” “triggers,” and “safety valves” that will require considerable administrative sophistication and intergovernmental collaboration to sustain. Perhaps predictably, individual states and interest groups bring very different agendas to the negotiations over cap-and-trade programs thereby weakening its economic purity. States with smaller populations or projections for higher population growth seek favored status in the allocation of emission allowances and insist that larger neighbors pay a disproportionately large share of governance costs. States more reliant on electricity imported from outside the cap-and-trade region view import constraints differently than those states with greater energy self-sufficiency (Rabe, in press). Many of these same issues emerged as Congress began to consider establishing its own version of RGGI on a national basis.

Perhaps the political challenges are most evident in California. The 2006 authorizing legislation was clear about the desirability of a statewide emissions cap but intentionally evaded the issue of whether a trading mechanism would be established because it was so divisive politically. In 2007, Schwarzenegger used his executive authority to insist on such a trading system, but this has proven extremely controversial. On the one hand, a number of industry groups suggest that such a system will be particularly disadvantageous to them. This has produced a splintering of interests and competing pressures on the California Air Resources Board to adjust any trading system to ease challenges for particular sectors. On the other hand, a range of environmental groups contend that emissions trading is a “sell-out that endorses pollution”; their reading of the 2006 statute suggests early and aggressive mandated reductions rather than a more flexible cap-and-trade system. Environmental justice advocates have further contended that any trading system will place particular disadvantages on low-income and predominantly minority communities. Many state legislators have joined this chorus in Sacramento, alleging that Schwarzenegger has exceeded his powers and should instead focus on an immediate command-and-control approach. As State Senate President Don Perata has stated, the 2006 Global Warming Solutions bill “is getting bogged down in arcane discussions over intercontinental trading schemes, ‘carbon markets,’ and free ‘credits’. That may work for Wall Street traders and Enron economists, but it doesn’t work for Californians” (Carbon Control News, 2007). At the same time that California is struggling to implement its own variant of a cap-and-trade system, it is also negotiating a multistate pact that follows the regional approach taken by RGGI. Thus far, the governors of Arizona, New Mexico, Oregon, and Washington have signed a very general memorandum of understanding with California to begin work on the “design for a regional market-based multisector mechanism, such as a load-based cap and trade program.” None of these states, however, have joined California in adopting emissions trading legislation and serious intergovernmental bargaining over the terms of a multistate pact remain in very early stages.

### **Looking Ahead: From a State-Centric to a Federal System?**

The evolution of the state role in American climate policy suggests that it is indeed possible, at some times and in some jurisdictions, to secure a base of political support for policies that promise to make some dent in greenhouse gas emissions. Indeed, the state experience over the last decade or so offers an important set of insights and could provide a building block for new departures in this arena. This might well involve continued expansion and diversification of the state role but could also be influential in the design of any future federal policy, whether or not that would involve formal collaboration and sharing of authority with states that have taken early action. State experience does not lend itself to easy prediction of the future, either of further state policy diffusion or eventual federal engagement. However, it does suggest the possibility of three broad alternative directions over the coming years, as state policy dominance begins to confront its fit into the larger American political, economic, and policy context. Prior experience in American federalism suggests at least three distinct intergovernmental paths for American climate policy that might be pursued in the near future and beyond.

***Shift toward Top-Down***

There is substantial precedent for federal government preemption of existing state policies. In such instances, Congress often responds to industry concerns about interstate regulatory variation and eliminates the “patchwork quilt” of policies with a uniform program (Nivola, 2002; Posner, 2005). The frequency with which Congress uses this tool in domestic policy has only increased in recent years (Zimmerman, 2007). Such diverse individuals as John Engler of the National Association of Manufacturers and U.S. Senator Barbara Boxer (D-CA) have referenced preemption as a distinct possibility, essentially wiping out existing state climate policies as part of any larger bargain to create a nationwide policy. Such policies could also establish a baseline later than 1990 for reductions, much as is emerging in recent legislative proposals in Canada and Arizona. This would, of course, invariably raise concerns about equity among those states that have achieved low emissions growth (through whatever mechanism) and might be denied credit. Moreover, states that had adopted and actively implemented their own policies would argue that preemption was particularly unfair to them as it would invalidate their early investments. In turn, some concerns have arisen that a federal preemption policy of modest scope might actually achieve lower emission reductions than through the existing compilation of state policies. Nonetheless, any serious discussion of a congressionally enacted cap-and-trade program or a renewable portfolio standard increasingly turns to the possibility of federal usurpation of a policy arena heretofore developed and dominated by states. The blending of some intensive industry opposition to new federal policies and likely opposition from some set of states (and their congressional representatives), as well as continuing congressional inability to enact major environmental legislation, is likely to make this difficult, at least for the near term.

***Continued Bottom-Up***

It remains very plausible to envision a system that retains a strong bottom-up emphasis. There is no guarantee that Congress or the executive branch will reach closure on any significant climate policy in the coming years and any federal action may be confined to a specific sector or policy tool, leaving much continued room for state engagement. Indeed, there are numerous areas of policy in which nationalization has seemed inevitable but has continued to operate with state domination (Teske, 2004; World Resources Institute, 2007). The recent patterns of diffusion, proliferation, and regionalization in state climate policy seem very likely to continue. This will be reflected in expanded adoption of policies already operational in multiple states and the growing pattern of multistate negotiation once neighboring states establish similar or identical policies. It is increasingly possible to envision “climate policy regions” whereby two or more states join common cause, building on early movement in this direction. It is conceivable that the United States could even set a national cap of sorts and simply allocate overall allowance or reduction requirements state-by-state, then allowing for interstate bargaining over the mechanics of reduction. This would follow the model of the European Union. No current policy proposals in Congress follow this format and, instead, continued bottom-up policy development in the absence of formal federal engagement

remains more likely. This was certainly consistent with the experience of the early stages of the 110th Congress, where a flurry of legislative hearings produced only modest policy outputs while state engagement continued to expand and intensify.

### ***Toward Collaborative Federalism***

It is at least possible to envision an American climate policy that builds on the respective strengths of both state and federal governments and engages in active policy learning across governmental levels. As discussed, many states have developed considerable climate policy expertise and may remain particularly well-equipped to target areas of “low-hanging fruit,” namely low-cost emission reductions unique to their state. At the same time, the federal government retains the ability to develop consistent rules and incentives on a national scale and, of course, the Constitutional authority to work collaboratively with other nations. Perhaps the United States could evolve into a multilevel climate governance system, consistent with practice in other areas of environmental protection (Scheberle, 2004). One such option is a two-tiered mechanism whereby, unlike preemption, the federal government would establish a national minimum but states would be free to retain or develop policies that were more ambitious. Such a policy could be crafted so as not to penalize states for early reductions and could also be designed to reward such actions. It remains entirely possible that climate policy will follow an iterative path for some time, with at least some states continuing to play a role of policy innovator and thereby influencing various rounds of federal policy. However, recent experience in American intergovernmental relations finds few examples of such collaborative federalism in environmental, energy, and virtually any other sphere of domestic policy over the past decade (Conlan & Dinan, 2007; Rabe, 2007a) and no immediate signs of a shift toward such a form of intergovernmental conduct.

The resurgent interest in climate change evident in both American public opinion surveys and Congress raises the serious possibility that a new course in federal climate legislation could be established at some point during the next few years. Proposals in both the House and the Senate cover all three of the policy types presented in this paper, although most attention is being devoted to renewable energy mandates (for both electricity and fuel) and a cap-and-trade system. There is no guarantee that Congress will take action at any future point, having conducted at least 175 climate change hearings between 1975 and 2006 and yet finding it extremely difficult to attain legislative consensus on major policy initiatives (Rabe, 2007b). The possibility of national-level action atop a growing tapestry of state and regional policies offers unique opportunities and challenges for future federal activity. To date, there is very little evidence of serious congressional efforts at intergovernmental learning, as portions of only two of these previous hearings have given any attention to state-level policy lessons of intergovernmental policy design issues. Even the flurry of hearings on climate change in the 110th Congress suggests little serious effort at policy learning, with most discussion of intergovernmental lessons involving brief presentations by high-profile governors or periodic congressional threats to overturn preexisting state policies as part of a larger bargain with organized interests. Moreover, it also remains clear that Congress is badly frag-

mented and faces steep hurdles before producing anything other than piecemeal legislation (Mann & Ornstein, 2006). This experience suggests that a continued period of bottom-up policy development amid federal drift may be the most likely near-term outcome. In turn, continuing intergovernmental conflict (whether state-to-state or state-to-federal) is likely to persist for many years in this area whether or not significant federal legislation is forthcoming.

Ironically, the American case may have some striking parallels with climate policy in other federal or multilevel governance systems, whether or not they have ratified the Kyoto Protocol. Ratifying parties such as Canada and the European Union have struggled mightily not only to meet their reduction targets but also to strike an effective balance of authority between central governments and their constituent units. Canadian provinces and EU nations vary by emission trend and level of policy engagement in ways that are highly analogous to the range of American state responses discussed herein. At the same time, Australia bears especially striking resemblance to the United States, given its rejection of Kyoto under Liberal Party rule, prolonged federal-level policy inertia, a flurry of policy development in some but not all of its states, and expanded federal attention to climate policy following the election of new leaders in November 2007. All of this suggests that climate policy can no longer be framed as the exclusive province of international relations and instead must also be acknowledged as an enduring challenge for multilevel governance.

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