

Contested Federalism and American Climate Policy

Barry Rabe

University of Michigan; brabe@umich.edu

Climate change has routinely been framed as an issue to be addressed through an intergovernmental regime guided by a set of large nations. The evolving reality of climate change policy development, in the U.S. and abroad, relies heavily on sub-national initiative. This article reviews the American climate policy odyssey, examining distinct periods in which respective intergovernmental roles have shifted. It devotes particular attention to the substantial expansion of state involvement between 1998 and 2007 and the more recent experience in which high state and federal engagement has produced a period of contested federalism. It concludes by exploring the growing likelihood that this arena will continue to be dominated in coming years by either state policy or some blending of state and federal authority.

Three of America's most prominent political leaders gathered in May 2009 on the White House lawn to announce an intergovernmental pact on climate change. President Barack Obama declared a new agreement on vehicle fuel efficiency and tailpipe emissions of carbon dioxide, establishing stringent new national standards intended to reduce American greenhouse gas (GHG) emissions from the transportation sector. California Governor Arnold Schwarzenegger beamed his consent, as this step represented formal federal government embrace of legislation passed seven years earlier in Sacramento and later backed by fourteen other states. Michigan Governor Jennifer Granholm was also on hand to endorse the deal, even though her state had earlier opposed the efforts of other states to go into the federal courts to seek such a decision.

This tableau underscores the fact that climate change policy has increasingly—and unexpectedly—assumed an intergovernmental dimension. This is true in formal federations such as the United States as well as other governments around the world that foster some degree of cross-level governance. Of course, this challenges much conventional analysis, as climate change was long framed as anything other than an intergovernmental issue. Since its initial arrival on both the international and American domestic agendas in the 1970s and 1980s, climate change has been commonly presumed to entail a dominant role for major national

powers that would cobble together a multinational pact to be implemented by an international regime. Such a view has been evident in each major milestone of international policy development, including the 1992 United Nations Framework Convention on Climate Change, the 1997 Kyoto Protocol, and all subsequent international conclaves. The December 2009 Conference of the Parties gatherings in Copenhagen reflected widespread expectations for an international pact that would bind the nations of the world together in attempting to mitigate climate change by reducing GHGs. But this also produced very little of consequence, resulting in a far more modest agenda for the 2010 conference in Cancun.

The reality of climate policy continues to prove far more complex than originally anticipated, necessitating the use of an intergovernmental lens to understand the factors that foster and deter policy formation at multiple governmental levels as well as the interactive dynamics across them. This reality is reflected in a growing body of scholarship that is sensitive to respective roles of varied levels of governments in nations around the world and how they evolve over time (Selin and VanDeveer 2009; Rabe 2008; Hoffmann 2011). This phenomenon is increasingly evident in nations on every continent, although this article will examine the American case. The United States has produced more GHGs than any other nation in recent decades; it continues to generate more than one-fifth of global totals despite being passed in 2007 by China for world leadership in annual emissions. American per capita emissions continue to rank among the very highest in the world. Given this outsized role, no international attempt to reduce GHG emissions and reduce the threat of climate change can realistically advance far without active American engagement. At the same time, unilateral American efforts, regardless of their scope, cannot resolve this issue, suggesting the need for widespread engagement by a range of intergovernmental systems, including those of India, the European Union, Australia, Brazil, Canada, and Mexico, among others.

This article explores the intergovernmental complexities of climate policy through an analysis of the evolving American case. It will examine three distinct periods of American climate policy, each featuring differing federal and state roles and relationships. This will begin with a review of the extended period from 1975 and 1997 when both the federal government and many states took modest, often symbolic steps to define the issue and begin to consider policy options. We will then consider transition into an extended period of “state domination” of climate policy development between roughly 1998 through 2007, as federal disengagement opened a clear playing field for state policy experimentation. This will be followed by the current era of “contested federalism,” whereby the federal government was prompted by a U.S. Supreme Court decision and a major electoral transition to consider a much-expanded role amid established state policy commitments. The discussion of contested federalism will include review of alternative forms of

divided or shared federal and state authority that began to be explored during this period. This includes such options as preemption that would entail a dominant federal role or a more collaborative form of federalism that would blend authority and attempt to accentuate the respective strengths of both levels. The article concludes with a review of some of the challenges and opportunities posed by this extended intergovernmental evolution for the future of American involvement in climate policy, as well as a review of the varied set of policy outcomes that have emerged thus far in the period of contested federalism. It will note that the possibility of a federal takeover of this arena seems unlikely to occur in the near future, leaving a complex mixture of intergovernmental responsibilities in the coming years and also the possibility of a more state-centric intergovernmental system than seemed plausible as recently as 2009.

Climate Change and American Federalism

Lacking precise intergovernmental dividing lines, scholars have searched for criteria to explain why the policy approaches of various levels of American government shift over time and frequently diverge. Many have defined and examined patterns whereby states (either a single state or a subset of them) tend to take the lead in policy innovation, sometimes fostering considerable sub-national diffusion of policy that may (or may not) trigger some form of federal response (Volden, Ting, and Carpenter 2008). States are often found taking early action to gain a competitive advantage over their neighbors, most commonly through attempts to accelerate or diversify economic development (Oates and Schwab 1988). Such steps are often thought to coincide with state aversion to those governmental functions that could impose heavy costs on a state and its taxpayers such as regulatory or redistributive programs (Peterson 1995). Questions of federal engagement often follow, whether to build on early state efforts through policy learning, erase them in the name of national uniformity, or jump in amid a seeming absence of state involvement (Posner 2010).

Application of this work to the arena of environmental protection regularly raises issues of negative externalities and whether states attempt to advance their own economic well-being by generating environmental contaminants that drift or flow to other jurisdictions where they cause ecological or human health damage (Lowry 1997). This has fostered considerable analysis of strategies to either reconcile cross-jurisdictional conflicts (such as interstate litigation for alleged damages or creation of interstate compacts to unite neighboring states on common environmental concerns) or sort out federal and state responsibilities to minimize cross-state contaminant transfer (such as federal preemption of a policy area). Externalities are rarely easy to measure with precision, however, and periodic

efforts to establish clear dividing lines between what constitutes a federal as opposed to a state area of responsibility have proven elusive at best.

Analysis that focused on intergovernmental relations was initially dismissed by scholars as irrelevant to climate change, given the predominant thinking that theories of international relations and regime formation were far more applicable. But the American case over recent decades, as well as emerging lessons from other federal systems, suggest that an intergovernmental perspective can be applied with considerable rigor to climate policy (Burke and Ferguson 2010). As we shall see, climate change policy options pose classic questions of economic development versus cost imposition. Just as no two states are likely to face the same risks from accelerating climate change, no two will likely frame such policy options in identical fashion or have comparable capacity to formulate policy. In turn, any federal responses will vary depending upon issue saliency at a given juncture as well as political factors that shape policy development, including public opinion and partisan control of the legislative and executive branches. At the same time, climate change might not seem to impose classic externality issues, as GHG emissions from any jurisdiction contribute to total global concentrations rather than move directly from one locale to another. But inherent in the combustion of fossil fuels that produce carbon dioxide, the dominant GHG, is a host of related environmental concerns, such as the release of conventional air contaminants. Alongside the likelihood of varied short- and long-term impacts from climate change on different states and regions (and hence different incentives to promote emissions reductions), the externality factor remains inexact but nonetheless present and contributing to intergovernmental policy considerations.

These factors suggest that differing scenarios may emerge as units within an intergovernmental system such as the United States consider climate policy engagement. As indicated in table 1, both the federal and state government involvement can run along a high-to-low continuum, with possibilities of significant changes over time. Each possible combination presents a different intergovernmental dynamic, with the United States appearing to have moved from

Table 1 Intergovernmental involvement in American climate change policy, 1975–2011

Contested federalism, 2008–2011 High federal, high state 1	State domination, 1998–2007 Low federal, high state 2
Federal domination (none) High federal, low state 3	Symbolic policy, 1975–1997 Low federal, low state 4

one domain to another in recent years. In the case of low federal and state involvement (Cell Four), there is scant intergovernmental engagement because little or no policy is being enacted at either level. This is reflected in the extended period of largely symbolic policy that prevailed between 1975 and 1997. In the case of high federal and low state involvement (Cell Three), the federal government has established a dominant relationship. There may be intergovernmental tension over how those federal policies are implemented in various states but limited jockeying between respective levels for control of the area. This can be described as “federal domination.” This approach seemed increasingly plausible politically in more recent years but efforts to expand the federal role and constrain state authority stalled during the 111th Congress and appeared unlikely to resurface in its successor body.

In the case of low federal and high state involvement (Cell Two), states will likely be exploring just how far they can go given the confines of a federal system and possible backlash from either federal or rival state authorities. This can be described as “state domination” and reflects the decade-long period that began in 1998. In the case of high federal and high state involvement (Cell One), both levels are actively involved and may either collide, compete or cooperate with one another. This can be characterized as “contested federalism” and is reflected in a number of more recent developments. As we shall discuss further, the United States appears to have spent much of the past decade in Cell Two. It has subsequently shifted toward the contested federalism of Cell One.

We shall explore the evolution of American climate change policy in recent decades using this framework, devoting particular attention to the dynamics within each cell at a given time period as well as factors that cause movement across cells at key intervals. This analysis could be expanded to consider the role of local governments, as many municipalities and counties have developed climate policy, often involving considerable interaction with state and federal authorities. It could also be extended to compare intergovernmental shifts across multiple policy areas, such as medical care and education. These issues, however, are beyond the scope of this article.

Symbolic Policy: 1975–1997

Climate change did not arrive on the doorsteps of federal and state capitals in the late-1990s, when deliberations leading to the ill-fated Kyoto Protocol took place. Instead, it surfaced much earlier at both levels, focused primarily on scientific interpretation but also generating very modest policy steps. At the federal level, the executive branch first turned to this issue in the Domestic Policy Council during the Gerald Ford presidency, responding to concerns raised by the Soviet Union about “climate problems” that paralleled what is now characterized as climate

change. This overlapped with a dramatic and disruptive spike in oil prices, which heightened federal attention on energy supply and policy alternatives (Mieczkowski 2005). Congressional hearings on climate change began in 1975, followed by a slow but steady pace of additional hearings until enactment of the Global Climate Protection Act. This was signed into law by President Ronald Reagan in 1987, establishing an inter-agency task force to consider this issue. One year later, Republican Governors in California (George Deukmejian) and New Jersey (Thomas Kean) signed the first of what would become a steady stream of state laws intended to address climate change.

None of these early steps, however, approached any reasonable threshold of what constitutes a serious policy initiative. A common theme was early problem recognition and very modest initial steps to develop a long-term governance strategy. No subsequent federal legislation or executive orders followed during the balance of this period and most state policy development during the 1975–1997 time span involved nonbinding policy recommendations, voluntary reduction programs, or small-scale renewable energy or energy efficiency programs that were not expressly focused on GHG reductions. Consequently, this extended period allowed scientists, journalists, environmental groups, and state and federal policy entrepreneurs to broaden their study of climate change and begin to formulate policy options. Hence, climate change reached federal and some state government agendas but remained a low-level concern. It did not generate serious engagement by either level, much less any form of intergovernmental tension or competition.

State Domination: 1998–2007

The American intergovernmental equilibrium on climate change was shattered toward the end of the 1990s, once the United States negotiated and then signed the Kyoto Protocol in 1998. If ratified by the Senate, Kyoto implementation would indeed have involved the federal government in a major way and likely opened a range of questions about whether significant duties would have been assigned to states. But Kyoto lacked any serious support from either Senate Democrats or Republicans and the Bush Administration's 2001 decision to withdraw formally only made official the reality that the treaty had no political future in the United States. This recognition, alongside the continued inability of Congress to advance serious climate policy created an open intergovernmental field for state government engagement. This follows precedents whereby the federal government vacates any role in policy development in a given area, does not preclude state involvement, and thereby creates the possibility of state domination for an extended period (Nathan 2008).

Less than a decade after the Kyoto rejection by the federal government, a large and ever-expanding body of American states were laying claim to national and, in

some instances, global leadership on climate change through unilateral policy development. This entailed experimentation in one or (usually) more states with nearly every policy tool imaginable that could achieve some GHG reduction. Much of this state policy development was locally developed and yet followed two well-established patterns for expansion within a federal system such as the United States. First, a number of climate policies followed a classic pattern of diffusion, whereby a policy idea begins in one state but then is essentially replicated elsewhere. For example, renewable electricity mandates represent one way to facilitate a transition away from fossil-based electricity. They have diffused rapidly throughout this period, operational in twenty-nine states in 2011. These so-called “renewable portfolio standards” (RPS) are most heavily concentrated in the Northeast, Pacific West, and Southwest but are in place in one or more states in every region of the nation; they were considered as a possible model for federal policy in the 111th Congress. President Obama proposed an expanded version of this policy in his 2011 State of the Union Address, shifting the framing from renewables to also include such “clean energy” (and lower carbon) sources as nuclear and natural gas. No two states have identical RPS, with considerable variation on such issues as the very definition of eligible renewable electricity sources, the levels of renewables required over time, and treatment of electricity generated within and beyond state boundaries. Nonetheless, they follow a generally similar structure. Texas, for example, the largest state generator of electricity and GHGs, has used its RPS to increase its use of renewables from <1 percent in 2001 to nearly 7 percent in 2010. Many states have established statutory targets to reach between 15 and 25 percent of their electricity from renewable sources over the next decade, which would translate into significant GHG reductions from that sector if implemented.

Second, the U.S. Constitution allows state governments to establish regional policies across borders through interstate compacts ratified by Congress. States have also experimented with simultaneous development of comparable policies that can also feature collaborative implementation, though there are constitutional uncertainties concerning how far these can go (Farber 2008; Kysar and Meyler 2008). Prominent examples of the latter approach are evident in three multi-state regions established through inter-state agreement to operate carbon cap-and-trade programs. These collaborations have involved twenty-three states, including ten from the Northeast (Regional Greenhouse Gas Initiative or RGGI), seven from the West (Western Climate Initiative or WCI), and six from the Great Lakes (Midwestern Greenhouse Gas Reduction Accord or MGGRA). The latter two have secured formal participation commitments from four Canadian provinces, British Columbia, Manitoba, Ontario, and Quebec. Each regional zone involves a memorandum-of-understanding between these jurisdictions that is put into operation through state or provincial legislation or regulation. RGGI is furthest

advanced, having begun carbon auction allowances for the electricity sector among its members in 2008 and generated more than \$800-million for member states during its first two years of operation. Neither WCI nor MGGRA have yet finalized their allowance process but both are pledged to reduce regional carbon emissions from a much wider range of sources 15 percent below 2005 levels by 2020. The American state experience reveals continuation of historic patterns of diffusion and regionalization in the absence of federal involvement on salient issues. It also indicates the substantial incentives that states (and their leading policy makers) might have to take significant climate policy steps without external pressure to do so.

Strategic Economic Advantage

State governments have long been noted for their capacity to use diverse policy tools to promote internal economic development. On the one hand, unilateral efforts to reduce GHGs might indeed be seen as detrimental to development, most likely through increasing energy costs. But a small army of state governors and other state political leaders have promoted climate policies in recent years, guided by a rationale based substantially on economic development grounds. Consequently, states might pursue renewable energy mandates or carbon cap-and-trade programs in part for climate and environmental concerns but also (and perhaps more significantly) for perceived economic advantages. This could entail development of “home-grown” sources of electricity such as wind and biomass as well as technologies and skills that could be in considerable demand in a carbon-constrained world. In turn, states carefully downplay any potential costs that these policies might impose upon citizens; they have proven averse to policy options such as carbon or energy taxes that might deter fossil fuel use but also alienate citizens by directly increasing their energy costs (Rabe 2008).

Just as states have raced to the top in other areas, including development of nanotechnology and stem-cell medical technology, an ever-growing number have jumped into the race for climate-friendly economic development in recent years (Mintrom 2009). As Pennsylvania Governor Edward Rendell said in a 2007 address to the General Assembly that endorsed a range of new climate and energy policy initiatives: “I believe renewable energy will dominate the economy of the next two decades the way information technology and life sciences have dominated the economy of the last two decades. For too long, Pennsylvania has been held back because so much of our employment was in industries that were shrinking. But with renewable energy, we have a chance to be a leader in one of the fastest-growing segments of this new economy. We should jump at the chance” (Rendell 2007). Variations on this rhetoric have emerged from statehouses around the nation; the Great Recession provided added impetus to promote alternative

energy policy as a state economic development option. As California Air Resources Board Chair Mary Nichols said in 2009, as her state was beginning to confront its biggest fiscal challenge in generations, “We would stand to benefit as a result of a global climate regime because we have the technologies, the investors, the venture capitalists in California, who will be finding ways to make money on all of this.”

Such framing opened state receptivity to a range of ways to promote these resources and skills, including regulatory mandates and financial incentive programs. Some states have also taken policy steps designed to protect against possible economic risk, in some cases betting against conventional, high-carbon technologies in anticipation of ever-expanding concerns over their environmental imprint. In recent years, a number of states have used their regulatory powers to thwart proposed coal-burning power plants, even though these produce substantial energy from an abundant source at relatively low cost. There have been a number of reasons behind this new strategy but consideration of economic ramifications is part of the equation. In Kansas, for example, then-Governor Kathleen Sebelius not only blocked permits for two new coal-burning plants in her state in 2007 and 2008, citing climate and conventional air pollution concerns but also related economic risks for Kansas given anticipated shifts toward other energy sources. A number of other states, including some with a legacy of reliance on coal, have followed suit and placed constraints on either expanding existing facilities or opening new ones. In 2009, for example, Colorado enacted the New State Act which is designed to facilitate a coal phase-out in favor of greater reliance on natural gas and renewables in concert with its RPS.

Still another state economic development incentive may relate to policy opportunities that, in effect, will shift most of the compliance costs to other jurisdictions. California’s alliance with other states pursuing vehicle emissions reductions can be considered through this lens, as none of these jurisdictions host large vehicle manufacturing sectors that might be jeopardized through aggressive transition toward lower-emission vehicles. The citizens of these states might ultimately pay more for new vehicles but no more than their neighbors around the nation; they might derive considerable savings if these policies fostered substantial reductions in per mile transportation costs. In turn, some of the proponent states were actively developing next-generation vehicle technology within their boundaries that might receive a boost through a regulatory burden imposed on conventional vehicles generally manufactured elsewhere. Under such a cost transfer strategy, any environmental benefits linked to reduce GHGs or other emissions would only be an added benefit. States might further angle for benefit maximization through early policy steps that would position them to extract maximum advantage under any future federal regulatory regime, building on environmental policy precedents whereby early state action has led to either expansive monetary rewards through grants or formal credit for early emissions reductions (Rabe 2008).

Strategic Political Advantage

States might also choose to explore unilateral policy steps to reduce GHG emissions in order to burnish their reputations for innovation on a larger stage, perhaps national or even international. At the same time, individual political credit for championing such policy innovation might be considerable. This phenomenon is most evident among governors, perhaps best reflected in California, where Schwarzenegger's 2006 electoral fortunes were clearly enhanced by his collaboration with Democratic legislators to produce ambitious climate legislation just before November's voting. This was illustrated in dramatic bill-signing ceremonies in which California laid claim to global leadership on climate change and Schwarzenegger's evolution from film celebrity to environmental policy super-hero appeared complete. The 2006 experience was followed by the governor's decision to host three "global climate summits" between 2008 and 2010 in Beverly Hills and launch the "R-20," a network of sub-federal governments around the world that has continued to explore climate policy partnerships.

Not every policy champion is as visible as Arnold Schwarzenegger but a diverse array of both elected and appointed officials in many states has taken active roles as policy entrepreneurs. This entails nurturing a policy idea, building a supportive political coalition, and guiding this effort to enactment through a "steering network" (Bomberg 2009). A primary reward is the making of "good policy" that might improve the environment and the climate. But studies of policy entrepreneurship also suggest that there are multiple incentives for officials to take such steps, including increased prominence and possible career advancement (Teodoro 2009). "Given the notoriety associated with adopting climate-related policies at the state and local level, politicians have much to gain from even a mostly symbolic measure," observed Kirsten Engel and Scott Saleksa (Engel and Saleksa 2005). In state politics, this might entail added visibility to increase prospects for seeking another office, whether due to ambition to climb the political ladder or the spectre of unemployment linked to formal term limits in many state offices. In California, Fran Pavley was a school teacher who entered the General Assembly largely unknown until she sponsored the vehicle carbon emissions bill enacted in 2002. This launched Pavley into statewide and even national prominence, making her a leading spokesperson on climate change and paving her way to a promotion to the State Senate in 2008. This pattern is also evident among other California officials and counterparts in many other states, with considerable precedent in other policy cases that result in "propelling a state official onto the national stage" (Aulisi et al. 2007).

Such entrepreneurial activity need not be confined to elected officials. Many states have proven fertile settings for individuals who serve in various departments and agencies to perform similar roles, often very close to the particular details of a

policy and responsible for luring elected officials into playing a supportive role. Such individuals may be unit leaders appointed by a governor or career staff. They may also be given an entrepreneurial opportunity in state government through outside support, such as foundations that provide grants to consultants who work with states by advising governors, facilitating statewide action plans, or providing technical assistance.

Advancing climate policy innovation may literally be the bureaucratic “role of a career,” reflecting a unique blend of expertise and opportunities for advancement. A number of the appointed state agency officials who were instrumental in RGGI development received significant new career opportunities in the Obama Administration. These included EPA Administrator (Lisa Jackson of New Jersey) and the agency’s air-quality division director (Gina McCarthy of Connecticut). Other so-called “RGGI Roadies” who were pivotal figures in that program’s development and early implementation have since assumed new positions such as representing foreign governments in the United States, researching climate policy for prominent think tanks, and launching consultancies. Other states and regions have also produced examples of such upward career mobility.

Filling the Intergovernmental Void

This blend of economic and political incentives encouraged an unexpectedly large set of states to explore active engagement in climate policy. States’ substantial constitutional authority made development of policy to reduce GHG emissions a fairly incremental extension of existing authority rather than a radical new departure. Under this context, economic and political advantages served to accelerate policy development that “made sense” for a given jurisdiction. In turn, states attempted to fill the substantial intergovernmental void created when the federal government essentially abandoned the playing field of climate change policy in the late 1990s. This gave enormous latitude to states to do nothing, pursue a few symbolic steps, enact one or two significant policies, or pursue a far-reaching approach that might position them for regional and national leadership and even global visibility. Clusters of states fall into each of these categories, all emerging from a period of state domination of American climate policy development that began in the late 2000s to begin to consider a potentially large expansion of the federal role.

Contested Federalism: 2008–2011

The first significant indication that the American intergovernmental balance on climate policy might be changing occurred when the U.S. Supreme Court performed the role of intergovernmental umpire. Massachusetts and twelve allied states contended that the federal government’s refusal to designate carbon dioxide

as an air pollutant under the 1990 Clean Air Act Amendments placed them in danger of such risks as sea level rise due to climate change. Ten other states took the opposite position, backing the Bush Administration's claim that the federal government lacked statutory authority and that states had no business being in court on such a matter. In 2007, a five-to-four majority of justices ruled in favor of forcing EPA to revisit its refusal to designate carbon dioxide as an air pollutant. "Massachusetts cannot invade Rhode Island to force reductions in greenhouse gas emissions, it cannot negotiate an emissions treaty with China or India, and in some circumstances the exercise of its policy powers to reduce in-state motor-vehicle emissions might well be pre-empted," wrote Associate Justice John Paul Stevens in the majority opinion. "These sovereign prerogatives are now lodged in the Federal Government." This decision represented a federal court response to state pressure to compel federal executive branch action, with potentially far-reaching intergovernmental consequences (*Massachusetts v. EPA* 2007; Engel 2009).

With this decision as well as the 2008 national election that appeared to open a window to expanded federal involvement, the era of state domination of American climate policy appeared to be effectively over. It was supplanted by a new era of contested federalism reflected in continued high involvement by states but also increasingly high involvement by the federal government (Cell One). The United States has remained in the relatively early stages of this transition. Nonetheless, some aspects of the evolving federal role have become clear, particularly through such Obama Administration policies as the 2009 intergovernmental agreement that it forged on transportation-based emissions. Some Congressional consensus appeared to be emerging through June 2009 House approval of far-reaching climate legislation that included an expansive cap-and-trade program that could have substantial impact on existing state policies. This form of legislation, however, failed to gain support in the Senate and appeared highly unlikely to be revisited in the 112th Congress. Consequently, federal climate policy development remained concentrated within the executive branch. The Obama Administration in 2009 accepted the Supreme Court prod and included carbon dioxide under the federal definition of an air pollutant. It has since followed this reframing through EPA efforts to launch a permit process to reduce GHG emissions from large sources under the auspices of the Clean Air Act, albeit heavily reliant on states for interpretation and implementation. These federal efforts, however, have begun to face potential challenges through litigation as well as possible Congressional action. Consequently, this creates an uncertain context for federal policy and thereby increases the likelihood of retaining a state-centric system in coming years.

The period of contested federalism has emerged in a remarkable intergovernmental context, one where approximately one-half of the states are implementing multiple climate policies, but the remaining states are less involved. So any federal movement into this arena could have significant consequences for various states

and regions. As the 111th Congress began, did the federal government see climate change as an opportunity to take full control of this arena or somehow share authority with states? As climate policy proposals emerged from the president and Congress, did these approaches to federal policy give some form of credit to those states that had taken early action and achieved emission growth levels below the national average? Or did they concentrate incentives on those states with little policy development and high emissions trajectories? Prior experience in American federalism suggested that there might not be one uniform strategy to guide this issue given its many dimensions and sectors with some link to climate change. A range of possible options received increasing scrutiny from Congress, the Obama Administration, and the states, each with distinct intergovernmental implications. This shifting dynamic obviously influences future state strategic decisions, moving from a playing field in which they had no intergovernmental rival to one in which they could be constrained or even eviscerated at any moment. Subsequent sections will consider alternative ways in which contested federalism began playing out based on experience of the past few years.

State Positioning

In anticipation of an expanded federal role, states began to position themselves to influence federal policy, both through associations representing all fifty states as well as individual state attempts to shape the outcome of any future policy. Consequently, one could begin to consider states, both collectively and individually, as strategic actors engaged in intergovernmental lobbying in search of most favored status as the federal government moved onto terrain that they had long dominated. In some instances, this entailed state alliance with other entities, including industries and environmental advocacy groups.

Organizations that represent the views of all states must of course contend with differences among their membership but generally find consensus positions that allow them to take fairly uniform stands in attempting to influence federal policy. Virtually all of these state-based entities took a fairly similar stance on possible expansion of the federal role in climate change, reflected in position papers, policy briefs, public workshops, and formal testimony aimed at the 111th Congress and the Obama Administration. They generally tended to endorse intergovernmental strategies that would protect existing state policies and allow for continued state innovation. They also sought to extract as much rent as possible, in the form of grants and other financial support, from the federal government to cover implementation costs, further promote their most promising renewable energy sources, and underwrite efforts to “adapt” to changing climates. Among those associations that represent elected state officials, for example, the National Governors Association and National Conference of State Legislatures (NCSL) took

generally similar positions. This reflects some differences on issues such as vehicle emission standards, reflecting the regional divides noted above. But most other areas of climate change reflect a fairly uniform position, represented in a 2009 NCSL resolution that received overwhelming support: “Federal legislation should not preempt state or local governments from enacting policy options that differ from federal choices or from enacting stricter or stronger measures.” Those organizations that represent state agencies with a common function, such as the Environmental Council of the States (environmental protection agencies), the National Association of Regulatory Utility Commissioners (electricity regulatory boards), the National Association of State Energy Officials (energy departments), and the National Association of Clean Air Agencies (state and local air quality units), took similar stances, though tailored to their particular area. In short, these groups sought to protect state interests under contested federalism, whether giving states latitude to sustain existing policies or take additional steps in the future.

At the same time, some individual states began to break ranks and sought preferred treatment for themselves under any expanded federal policy. Those states that sustained relatively low patterns of emissions growth and high levels of policy development sought special recognition in any federal cap-and-trade policy. This included supplemental credits for reductions that took place before a federal program would begin, as had occurred in the 1990s during creation of an emissions trading system for sulfur dioxide. In the case of Wisconsin, a state with a heavy manufacturing base, relatively high per capita emissions, but a considerable record of policy development, officials lobbied through reports and Congressional hearings for policies that would be particularly beneficial to their state. That included full return to Madison of any revenues that Washington might collect from Wisconsin under the auspices of cap and trade, flexibility in registering in-state forestry projects for carbon sequestration credits, and substantial federal support for Wisconsin’s renewable energy research and development program. Like Wisconsin, states increasingly began to pursue a pair of strategies simultaneously in intergovernmental negotiations, taking both collective stands as well as ones tailored to their particular advantage.

In response, federal officials considering policy engagement must weigh how seriously they will consider these collective and individual state claims, given the different ways in which state and local interests are represented in the two chambers of Congress and the significant regional differences in energy production and consumption that are so central to climate policy. In the House, California (with the lowest per capita rate of carbon emissions of any state) has more than fifty times the voting power of Wyoming (with the highest per capita rate of carbon emissions of any state), reflecting their respective populations. But in the Senate, the two states have identical voting power. These realities have long made the intersection of energy and environmental protection among the most

contentious in American politics, given varied degrees of economic dependence between states on the extraction of fossil fuels and their use in meeting core energy needs (Lowry 2008). Any emerging federal policy must run this political gauntlet successfully, while also weighing the positions of the states against all other organized interests. Indeed, each interest is likely to prefer its own balance between federal and state authority in any emerging climate policy. This raises the possibility of very distinct policy alternatives, each of which would tilt the intergovernmental system in very different ways.

Total Preemption: Federal Encroachment

One option for federal governments that move into a state-dominated policy arena is complete takeover, eviscerating any state role and imposing federal domination in the process. Congress has frequently used its delegated powers to enact “preemption statutes” that can eliminate or restrict any prior state regulatory policy in a particular area. In some instances, preemption reflects a federal effort to eliminate state-by-state variation or set a federal standard well below that of the most aggressive states. Between 1995 and 2004, for example, a Republican Congress enacted seventy-five preemption statutes, many of which reflected “pressure from business interest groups for the establishment of harmonious regulatory policies” across state boundaries (Zimmerman 2005, 361). Preemption can also be used in instances where Congress deems states unable or unwilling to establish a needed regulatory presence, perhaps in instances in which state policy processes are deemed “captured” by business and industry. In recent decades, preemption has been applied to a wide range of economic functions, from restricting state oversight of mutual funds to establishing uniform nutritional labeling on food items (Teske 2005). Any number of preemption options could be applied in the climate arena, including carbon cap-and-trade, and is most likely in instances when the total number of active states is more limited or their policy implementation remains in early stages. This approach was clearly on the agenda of the 111th Congress, building on some earlier policy proposals when enactment seemed highly unlikely.

Total preemption represents the most comprehensive form of federal encroachment, with the power to effectively eliminate all existing state laws and standards in a given area in favor of a uniform federal alternative. For example, Congress could simply declare through statute all 29 operational RPS’ null and void and install a national standard. It could take a similar approach in the cap-and-trade arena, shutting down the three regional carbon trading zones through a single legislative pronouncement. Some states and a number of state professional associations were clearly concerned that total (or near-total) preemption could emerge as a federal strategy. The National Association of Clean Air Agencies argued: “To date, climate change legislation proposed in

Congress has, in almost all cases, been designed as though almost every important decision will be made by Congress directly, or by the (EPA) on a uniform national basis” (NACAA 2008).

A somewhat early indicator of potential dividing lines over a total preemption strategy emerged in 2007 when Senators Dianne Feinstein (D-CA) and Norm Coleman (R-MN) introduced federal climate legislation that would eliminate all existing state policies that had been approved and prohibit future state efforts without explicit federal support. Some business and electric utility representatives strongly endorsed this approach, such as electric utility lobbyist Scott Segal, who said: “Preemption is one of those goal-line stand kind of issues The issue is too important, too expensive and too in need of a national response to let inconsistent state policies continue.” In response, Bill Becker, the executive director of NACAA, stated that “We will fall on our sword on preemption.” Both Feinstein and Coleman backed down amid strong resistance from state and local authorities, as well as environmental advocacy groups. “There’s great sensitivity to what states do, and I respect that,” said Coleman (Samuelsohn 2007). The idea of total preemption of state climate policies re-emerged in the 111th Congress, particularly in conjunction with various cap-and-trade proposals. For example, 2010 Senate consideration of a climate bill that might be reconciled with earlier House legislation focused heavily on the American Power Act, which was proposed by Senators John Kerry (D-MA) and Joseph Lieberman (I-CT) and also drew initial support from Lindsey Graham (R-SC). One central provision of this bill was that “effective January 1 of the first calendar year for which federal allowances are allocated, the bill preempts implementation and enforcement of state cap-and-trade programs. It does not include language allowing states to restart such programs in the future” (Zyla, Arroyo, and Cruce 2010). The bill was withdrawn from full consideration in July but was part of an effort to build a last-ditch coalition through use of preemption. No comparable legislation appeared likely to advance in the 112th Congress, reducing any prospects for federal domination via encroachment on earlier state initiatives.

Bargained Preemption: Negotiating a Federal-State Deal

There is also ample precedent for addressing federalism through extended bargaining between federal and state authorities. Rather than attempt an intergovernmental *coup d'état* through total preemption, the federal government can either negotiate terms directly with states or embrace their most ambitious efforts as a national standard. Such an approach may be particularly common when states are divided on an issue, allowing the federal government to broker differences and even offer side-payments to potential losers. One early illustration of this dynamic was the 2009 Rose Garden ceremony that brought together the president,

prominent governors, and many other interests to announce a new departure in attempting to reduce vehicular GHG emissions.

Federal law had long given federal authorities exclusive authority to set national fuel economy standards for cars and light trucks and the 2007 Energy Independence and Security Act included a modest increase in these standards. California, however, stepped aggressively into this very area through 2002 state legislation (AB 1493), exercising its unique powers to request a formal waiver from federal standards under the Clean Air Act to approve its standards for carbon tailpipe emissions from future vehicle fleets. This reflected a long-standing intergovernmental agreement whereby California alone could exceed any federal policy on air emissions, as long as it secured federal approval (Eisinger 2010). Only at that juncture could other states embrace California's approach as their own policy or simply accept whatever federal standards existed. But this state effort involved a very creative re-framing that essentially would have the effect of regulating fuel economy but do so through the mechanism of air-quality emission standards whereby California could retain jurisdiction with federal approval. This California initiative contributed to the decision by Massachusetts and other states to enter the courts seeking federal designation of carbon dioxide as an air pollutant, to force the reluctant federal hand on this issue. However, the Bush Administration refused to budge on this, even after the Supreme Court decision, effectively blocking the California waiver request.

The Obama Administration reversed course through an intergovernmental agreement that, as Pietro Nivola has noted: "essentially plans to spread California's vehicle emissions restraints nationwide," at least through 2016 (Nivola 2010, 162). This served to eliminate the possibility of two sets of standards (those endorsed by California and its state allies and those set federally and preferred by states opposed to this approach), thereby offering some predictability to vehicle manufacturers. California and like-minded states were obviously pleased with this outcome, as it in effect embraced their standards as national policy. This may explain why Schwarzenegger decided to spend a California election day with profound consequences for his state's fiscal future celebrating on the lawn of the White House. In the case of Michigan's Granholm, the outcome was bittersweet, given the further pressure that the decision would place on battered vehicle manufacturing industries in her state to adopt new practices. But she was in no position to resist, at the very point the federal government was assuming a majority stake in General Motors and Chrysler as well as depositing significant sums of federal stimulus funding in Michigan to support clean energy development. In turn, the Obama Administration later decided to keep the "California option" alive, holding out the possibility of further unilateral state action after 2016. Almost immediately upon reaching this agreement, California officials began to prepare new policies for the post-2016 period, including a potentially steep increase in vehicle fuel economy to

65 miles per gallon by 2025. However, California and EPA announced in early 2011 that they would work together and attempt to fashion the next round of standards together.

Intergovernmental bargaining can also take other forms, blending regulatory mandates with financial incentives. During the 110th Congress, one prominent Senate cap-and-trade proposal, known as the Climate Security Act, featured a plan to offer financial incentives for “clean state actions.” Under this proposal, those states that had “led the nation” in attempting to reduce GHG emissions and improve energy efficiency would be eligible for substantial intergovernmental financial transfers through carbon emission allowances. In exchange, the federal government would require that states discontinue involvement in any existing regional cap-and-trade programs and refrain from launching any additional programs on their own, thereby facilitating full state “transition” into the new federal system. The collapse of Senate deliberation over climate legislation shortly thereafter prevented a serious hearing on this proposal but it demonstrated one way in which financial incentives might be used to attempt to broker an intergovernmental agreement.

A new version of this approach surfaced in the House in 2009, through the cap-and-trade provisions included in the American Clean Energy and Security Act (ACESA) (Pooley 2010). This proposal advanced a somewhat different form of an intergovernmental bargain. All existing state and regional cap-and-trade programs would be preempted but only for a designated period, namely 2012–2017 or the first five operational years of the federal program if it launched operations on schedule. RGGI, WCI, and MGGRA would presumably go into a deep freeze during this period, with the possibility that they might be allowed to revive after 2017, though there would be no guarantees about that. In response, states would be granted direct oversight of some of the allowances that the federal government would allocate for the cap-and-trade program, though likely with less emphasis on rewarding early-action states than under the Climate Security Act proposal. The overall allocation of allowances to the electricity sector was quite generous and state public utility commissions were given lead roles in determining distribution and oversight. Allowances for other sectors representing major GHG emission sources, such as oil refiners, involved a far more limited role for state governments. All of this was part of a remarkably complex set of intergovernmental and inter-institutional negotiations designed to secure a majority vote in the House (Rabe 2010). This was achieved on a 219-to-212 vote on ACESA in June that generally followed partisan lines but featured forty-four Democratic defections in opposition and eight Republicans in support. Companion legislation never got far in the Senate and there appeared to be virtually no prospect for revisiting this approach in the 112th Congress.

Partial Preemption: Setting a Federal Floor

Another approach that entails shared authority is partial preemption, which has been used extensively in water and air quality control as well as many non-environmental policy areas. Under this approach, there is less emphasis on using money as an intergovernmental lubricant and instead a willingness to sustain a two-tier system that allows for continued state policy implementation alongside a federal counterpart. Federal legislation may establish a form of “floor preemption” that sets a national baseline that must be met in all states while allowing individual states to exceed that baseline by sustaining earlier programs or adopting new ones. Such an approach is particularly common when a large set of states have adopted their own similar policies and are well into implementation, thereby making total preemption more contentious.

One form of partial preemption relevant to GHG emissions has been established in federal legislation. The 2007 Energy Independence and Security Act included a renewable fuel standard, which sustained long-standing federal tax incentives to produce ethanol from domestically-grown corn but also mandated a gradual increase in its use on a national basis to a level of 36 billion gallons per year by 2022. This legislation did not preempt any of the ten states that had already established their own version of this policy, some of which set more ambitious targets than the new federal program, or preclude any state from doing so in the future. Some state officials balked at this federal legislation, most notably Texas Governor Rick Perry, who contended that it was producing steep increases in commodity prices. Perry and other governors sought a federal waiver to reduce significantly the amount of ethanol required to be blended into gasoline, but this was rejected by both the Bush and Obama Administrations, thereby leaving both the federal and state portions of this two-tiered system intact. The Obama Administration further embraced ethanol through a 2011 mandate that increased the amount of this fuel source used in gasoline from 10 to 15 percent for a wide range of vehicles manufactured in the 2000s. At the same time, more than a dozen other states began to challenge the standing of corn as the primary recipient of governmental support through development of “low-carbon fuel standards.” These would not bypass the federal requirement but would define bio-fuels far more broadly and in some cases actively promote plant material more prevalent in other areas of the nation.

Many federal proposals over the last half-decade have focused on renewable electricity, including provisions to establish a national RPS. Most of these have followed a partial preemption strategy and would not interfere with existing state programs. This was also the path outlined in ACESA. Such legislation would not constrain existing state policies, including those with targets greater than the one proposed for the nation or future state initiatives that exceeded federal levels.

Similar legislation was passed with bipartisan support by the Senate Energy and Natural Resource Committee in 2009 but it disappeared along with other Senate climate proposals in 2010. There appeared to be some prospect for returning to this model in the 112th Congress, particularly if the definition of “renewable” would expand to include nuclear, natural gas, and large hydro sources under the alternative frame of “clean energy.” This idea was advanced by President Obama in his 2011 State of the Union address, which called for a mandate that would require the nation to obtain 85 percent of its energy from such “clean sources” by 2035.

Collaborative Federalism: An Intergovernmental Partnership.

One additional option would view climate governance as an ongoing intergovernmental partnership rather than a formal distribution of power as would exist under total or partial preemption. There is some precedent for fashioning intergovernmental strategies expressly designed to engage both federal and state governments in a fairly collaborative manner that plays to their respective strengths. Under this model, the federal government often establishes an overarching framework that specifies required emissions levels, sets forth expectations of what states are to deliver in terms of results, and maintains a mechanism to measure state performance with possible ramifications for failure. But the core of decision-making on implementation in such instances would be largely devolved to individual states. This would allow them to take advantage of the considerable expertise they have already developed in climate governance and tailor emission reduction strategies that are particularly well-suited to their unique circumstances. A number of air quality programs operate under this type of framework, with states delegated considerable authority for decisions such as permitting and enforcement once EPA approves their “emission budgets” and “implementation plans.” There has also been considerable experimentation in this arena, particularly among states with a tradition for early engagement and capacity to work across traditional medium and functional boundaries. Given recent tensions between federal and state levels and the weakening of institutions designed to foster intergovernmental collaboration in the United States, such policies are not easy to launch or sustain. But they reflect a model of shared governance and mutual intergovernmental accountability, potentially playing to the respective strengths of both governmental levels.

Applied to climate change, a collaborative federalism approach might take two forms. First, the federal government could set emission caps for individual states or regions and then allow these sub-federal units to work out the necessary steps to implement existing policies or create new ones that would enable them to meet their reduction targets. States might receive federal financial incentives for meeting performance targets but lose access to these funds if they failed to deliver, perhaps

building on the experience of the National Environmental Performance Partnership System launched in the 1990s. Second, programs such as federal cap-and-trade could allow states considerable latitude in implementation. This might follow the example of RGGI, whereby regional authorities determine the metrics for distributing emission allowances but defer to individual states to decide how to allocate them internally; this approach has been evident in the European Union Emissions Trading Scheme (Kruger, Oates, and Pizer 2007; Thomson 2006). Under RGGI, this has involved a multi-state organization headquartered in New York that oversees the trading system and distributes allowances according to an established formula. But each state within RGGI then determines allocation (Cook 2010). These states have gravitated toward a system that auctions all of these allowances, generating considerable revenue and producing a system much closer to what many economists have deemed the most effective way to operate cap-and-trade. In contrast, most serious Congressional proposals eschewed auctioning in favor of a more complicated distribution process that would establish criteria for allocating allowances by sector and then distribute most of them at no charge to industries in attempting to build a supportive coalition. One could indeed use the RGGI system as a national model on cap-and-trade, perhaps even tailored with other intergovernmental strategies for other policy tools. Such ideas emerged in a number of policy briefs, including some produced by organizations representing state governments and their respective agencies, but were generally marginalized during the 111th Congress.

However, one possible form of collaborative federalism may move forward in the absence of federal legislation, albeit amid much uncertainty and with considerable potential for conflict. The Obama EPA established an “endangerment finding” for GHGs under 1990 clean air legislation, thereby launching a process to regulate these releases from large industrial sources, which will heavily involve states through air permit implementation. This has proven highly controversial, with the possibility of either federal legislation to deter that action, litigation to block implementation, or reversal under a future president. EPA received a very mixed response from states as it moved into early stages of implementation. On the one hand, the lead environmental officials of twelve states petitioned Congress not to block EPA involvement and sixteen states endorsed the agency’s opposition to industry litigation to reverse the finding. On the other hand, twelve states, led by Alabama, Texas, and Virginia, petitioned EPA to terminate this regulatory process. According to Governor Perry, the EPA action was “based on the tainted data of an agenda-driven international panel” and should be halted (Fahrenthold 2010).

The federal agency continued to move forward, however, though its relations with Texas further soured after rejecting the state’s attempt to take a flexible approach to conventional air emissions permitting through use of a facility-wide emissions cap. In August 2010, Attorney General Greg Abbott and Texas

Commission on Environmental Quality Chair Bryan Shaw wrote to EPA, saying that “Texas has neither the authority not the intention of interpreting, ignoring, or amending its laws in order to compel the permitting of greenhouse gas emissions” (Davis 2010). The state refused any involvement in the permitting process and pursued litigation to block federal implementation. According to NACAA executive director Bill Becker: “Texas is clearly drawing a line in the sand” (Pendergrass 2010). As of 2011, Texas stood alone in taking such a posture, though its standing as the largest state source of GHGs accentuated this conflict.

EPA repeatedly emphasized in 2010–2011 that it wanted to work in full partnership with states in developing this regulatory program. This included securing state input on program design as well as exploration of developing a permit fee structure that could transfer funds to states to cover implementation costs. “What is really reassuring in this particular case is that Lisa Jackson and EPA get it. She is a former state official, she understands what states have to do to gear up for this program,” said one state official (Winston 2010). EPA has also worked with states to find ways to phase-in GHG regulations over time, beginning with a set of very large emission sources in 2011 and expanding that gradually in later years. The agency has faced considerable pressure from environmental groups to move more rapidly and cover more sources but both Jackson and McCarthy have been adamant about the need for a “manageable and commonsense” process. McCarthy noted that “one of the reasons for doing the phased-in approach as we’ve done it is to understand how we could ask states to take on these burdens in a phased way.” In November 2010, the agency announced that carbon emissions controls would be a “state and project specific decision” (Power 2010). The long-term development of this regulatory program remains highly uncertain and initial plans would still bypass many major emissions sources even at the end of the phase-in process. But this represents, at least initially, an effort between federal and state regulatory agencies to jointly craft an implementation plan and also avoid interference with a wide range of existing state policies. In late 2010, officials from nine states active in climate policy requested that EPA allow them to develop locally and regionally tailored compliance plans that would include use of existing state programs to meet new federal requirements for GHG emissions reduction.

Back to the States?: 2011 and Beyond

The limited scope and uncertain future of new federal climate policy initiatives thus far under contested federalism underscored the reality that much of the American approach to climate policy will in all likelihood continue to be state- and regionally-centered in the coming years. After the surge of sub-federal policy development in the period of state domination, states began to slow their efforts, in large part due to anticipated federal action on a large scale. The collapse of

Congressional deliberation on major legislation returned much of the lead in climate governance to states. This raised significant questions of implementation, including a series of major challenges and opportunities.

States moved their policies into full operation at a point of enormous fiscal constraint, leaving uncertain their capacity to sustain the range of staff support necessary to assure effective implementation. In turn, their precarious economies may have made them more reluctant to move fully into implementation given the possibility of imposing added costs for energy and manufacturing. Some have begun to question their capacity and willingness to sustain earlier commitments. New Hampshire's legislature considered possible withdrawal from RGGI in 2011, though Governor John Lynch said he would oppose such a step. In the WCI, both Arizona and Utah formally withdrew from the cap-and-trade program in 2010 and New Mexico considered a similar step the following year. Even California, the driving force behind the WCI process, faced a November 2010 ballot proposition that, if enacted, would have placed its own commitment to cap-and-trade and the WCI process in jeopardy. That initiative was rejected by a 61–39 percent margin but California faced numerous challenges in moving ahead, including uncertainty over the legality of fees needed to fund its climate program operations. Other states also faced likely implementation obstacles, including uncertain political support for climate policies as control of so many statehouses shifted control through the 2010 election.

These kinds of shifts may be further propelled by major swings in public opinion on the existence of climate change and the anticipated severity of any potential risks. Survey analysis in 2009 and 2010 not only found a significant decline in belief that global temperatures have been warming in recent decades but also that Americans tend to rely most heavily on their personal experience with recent and localized weather conditions to shape their understanding of this issue. Consequently, public understanding of this large-scale phenomenon appears highly-sensitive to short-term considerations, such as storm intensity, drought, and temperatures in a given summer or winter. This appears to produce rapid short-term fluctuation in attitudes on the existence of climate change as well as support for various state policies (Borick and Rabe 2010).

At the same time, three new developments emerged in recent years that could serve to bolster existing state commitments or even expand them. First, the RGGI experience with auctioning allowances produced a significant source of revenue in concert with imposing a carbon cap. More than \$800 million was returned to the ten RGGI states via their first two years of auctions, with most of this funding channeled directly to renewable energy and energy efficiency initiatives. The RGGI model received significant attention in other states given its ability to impose a carbon price and thereby diversify a state's fiscal base. Decisions in New Jersey and New York to shift RGGI auction revenue use from energy programs to general

funds triggered heated debate over proper use of such funds, with opponents of these transfers deriding this process as “RGGIcide.” This coincided in 2011 with expanding state review of gasoline excise taxes, electricity surcharges, and other energy tax options to possibly address fiscal woes and expand funds for popular energy and transportation programs.

Second, the rapid emergence of Canadian provinces into a highly-active mode of climate policy development has expanded the opportunity for cross-border partnerships with American states (Burke and Ferguson 2010). Provinces have become increasingly active partners in the regional cap-and-trade programs and are actively exploring opportunities to work cooperatively across the forty-ninth parallel, reflecting the substantial movement of energy across that border. They have also developed a pair of policies that have been frequently discussed in the United States but never enacted in any state. Carbon taxes that establish a levy based on the carbon content of various fossil fuels have been enacted in British Columbia and Quebec; “feed-in tariffs” that guarantee long-term prices above what is customary for conventional energy sources have been established in Ontario, building on European experience.

Third, a growing number of states have begun to consider policies designed to facilitate adaptation to changing climate, in some instances alongside efforts to attempt to mitigate climate change through emissions reduction. Twelve states had completed or launched state adaptation planning processes in 2011. All of these states had some portion of their border along an oceanic coast and, in turn, a central focal point in many of these plans was linked to concern about rising ocean levels and potential impact on coastal land use. Water scarcity through inland drought has also emerged as a growing concern, particularly in the Southwest. None of these state plans have yet been translated into specific policies, however, and the hope in some states that federal climate legislation would generate funding for state adaptation efforts has been dashed. Nonetheless, adaptation is clearly gaining increasing attention, particularly as states and regions respond to climatic changes that are consequential in their areas, and could lead to new policy departures in such areas as insurance and land-use planning.

Contested Federalism and Beyond

The transition from state domination to contested federalism in American climate change policy remains in a fairly early and uncertain stage. The extended period of state experimentation with the development and implementation of numerous climate policy tools creates a remarkable testing ground to examine what does—and does not—work effectively. This affords a unique opportunity for intergovernmental “policy learning,” discerning lessons from best practices that might be blended into a system that engages both states and federal units in a constructive

manner. Such a process would be entirely consistent with Douglass North's understanding of "adaptive efficiency," which reflects "the willingness of a society to acquire knowledge and learning, to induce innovation, to undertake risk and creative activity of all sorts, as well as to resolve problems and bottlenecks of the society through time" (North 1990, cited in Bednar 2008). One could envision an iterative process that builds on respective federal and state capacities in addressing the daunting challenge of climate change and approximating Jenna Bednar's model of a "robust federation" (Carlson 2009).

Thus far, however, there has been little evidence that this will occur. Much of the focus on climate change in the 111th Congress involved a desperate search for sufficient votes to assemble a lengthy and complex bill. States were one of many claimants for most-favored treatment under such a massive bargaining umbrella. This process stalled, leaving a loose patchwork of federal commitments in such areas as increased vehicular fuel economy, ethanol mandates for transportation fuel, and an agency-led effort to attempt to regulate GHGs from some large industrial facilities. More than two decades after the enactment of the 1990 Clean Air Act Amendments, Congress has issued no formal statement on whether it deems GHGs an air pollutant or if anything should be done to reduce them. Federal government engagement on this issue has been dominated by the judicial and executive branches and is susceptible to much future modification. One major test of federal ability to forge a constructive partnership with states in a period of contested federalism will involve EPA's attempts to implement its climate endangerment finding through GHG permits that will ultimately be issued by state agencies. This moves forward, however, amid potential challenges from the courts, Congress, and such states as Texas. If this federal effort is blocked, it is possible that we may shift back from contested federalism to state domination of American climate policy in coming years.

States have increasingly moved beyond experimentation into the stage of implementing their own climate policies. What once seemed a short-term experiment that would eventually be eclipsed by far-reaching federal legislation continues to occupy center stage in American climate policy. Such core climate policy tools as cap-and-trade and RPS continue to operate only at the sub-federal level, albeit with considerable uncertainty. However, a combination of state and regional policies proceed amid shifts in political leadership and in a very uncertain fiscal period for states to sustain existing efforts. In turn, the experience with RGGI in the American northeast and carbon taxes in Canadian provinces raises the question of whether states may expand their involvement in carbon pricing strategies, thereby linking efforts to address climate change with a mechanism to diversify their revenue bases. In any event, American climate policy will likely retain a strong state imprint in the coming years, barring some major state withdrawal from this arena. This remains ironic given the earlier framing of climate change as

a matter exclusive to national governments and international regimes. This pattern is also evident in many other nations around the world that allow for intergovernmental sharing of authority for energy, environmental protection and all other policy areas related to climate change.

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