

CHAPTER 3

A New Era in States' Climate Policies?

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THE UNITED STATES HAS BEEN widely condemned for its repeated inability to forge bold national strategies to address climate change. This opprobrium targets the limited capacity of federal governing institutions to devise policies to stabilize and reduce American greenhouse gas emissions, as well as their inability to assume a credible leadership role in international treaty deliberations. Although not a new issue, climate change remains a perplexing one for American federal institutions such as the presidency, Congress, and executive agencies. Ironically, the one branch of the American federal government that has had few inhibitions about major engagement is the judiciary, beginning with the historic 2007 *Massachusetts v. EPA* decision. This case was brought by a set of a dozen states that forced the federal executive branch to consider formally classifying greenhouse gases as air pollutants under federal clean air legislation. But even American federal courts have limited power to force policy formation and implementation, as Kirsten H. Engel notes in the previous chapter, leaving considerable questions about any future American national commitments on this issue. Indeed, federal inertia has had the largely unanticipated effect of shifting the locus of most climate-related policy development to subfederal levels, producing a patchwork quilt of state and local government policies. Even those policies adopted by the federal government have been, as we shall see, heavily reliant on states for either initial policy development or central roles in implementation, leading to a remarkably decentralized governance approach for an issue generally framed as a “global” problem.

The expansive state role has emerged over several decades, though it was largely unanticipated by scholars and policy makers, who assumed that only national and international institutions could design and implement climate policy. But American states, working independently or in collaboration with each other, may well have climatic, economic, and political incentives to take unilateral actions prior to

federal and international engagement.¹ These may include unique and localized impacts of early evidence of climate change, with a desire to begin to mitigate potential local effects and also prepare for adaptation strategies. They may also reflect economic considerations, as states see investment in clean energy technologies as attractive venues for economic development, possibly positioning them to be national or international leaders in development of skills and technologies likely to be in demand in a decarbonized world. And early state action may also hold considerable political appeal, giving individual states and their state policy entrepreneurs national visibility, positioning them for influence in future federal policy design.² All of these factors likely contributed to the fact that American climate policy looks considerably more robust when one moves from the federal to the state level, as is increasingly evident in other federal governing systems, such as those of Australia, Canada, and India.³ State governments continue to be prominent players, even after some new federal policies have gone into operation and some states have reversed earlier policy commitments.

This chapter will revisit the American case, with particular attention to the evolving role of state governments in policy design and implementation. It will acknowledge numerous federal-level impediments, building on Kirsten H. Engel's chapter, but note a continuing pattern of state engagement. Consequently, the chapter will contend that the United States *does* have a "climate policy," albeit one that consists of a number of rather fragmented pieces rather than a single, comprehensive initiative. If one views these various state and federal components collectively, and also considers lessons from the urban arena as discussed in Rachel M. Krause's chapter, a somewhat different story emerges from the conventional depiction of the United States as a pure laggard. Instead, there may be significant potential for emissions reduction through implementation of these various policies in the coming decades. These could build on the unanticipated stabilization and then decline in American emissions that has occurred over the past several years, though the continuation of this pattern is highly uncertain. Recent factors driving down emissions have included the economic collapse and related decline in energy demand, substantial replacement of coal with natural gas given shale drilling advances, and subfederal climate policy implementation. States may actually be poised for an expanded role in coming years, as they consider future energy and economic development options and also respond to evolving federal government policies.

The Collapse of National American Climate Policy Development

Climate change is hardly the first area that has defied development of a comprehensive and seamless policy response by the federal government. The very fragmentation of federal institutions mitigates against integrative policy design, particularly

with the proliferation of veto points in the legislative and executive branches and the penchant for divided partisan control over the majority of years in the past half-century.⁴ In turn, America remains a highly decentralized polity, leaving enormous areas of jurisdiction to state governments, which have their own constitutions, political cultures, and governance structures. Indeed, one need only think of such fragmented and contentious arenas as medical care and education policy to comprehend the enduring American inability to devise national policy that is politically sustainable, cost-effective, administratively feasible, and capable of meeting performance goals.

Climate change policy is nonetheless a distinctly difficult political challenge for American institutions, given its common framing as heavy on imposing front-loaded costs and uncertain at best on conferring long-term benefits. This has led to considerable effort to package climate policy proposals as shifting that equation and offering potential near-term benefits such as economic diversification and development. Such a reframing strategy reached its apex in November 2008: The election of the 44th president, a shift to Democratic Party control of both chambers of Congress, and a strong emphasis on potential cobenefits from reducing greenhouse gas emissions alongside facilitation of a far-reaching transformation of American energy policy seemed likely to result in the enactment of major legislation. At this point, it appeared probable that the federal government would assume the dominant role in American climate change policy, replacing state and local governments as policy leaders.⁵

The 111th Congress thus convened with considerable national and international expectations that it would produce comprehensive climate legislation that might well constrain or even formally preempt existing state and regional policies. This appeared likely to build on the momentum of predecessor Congresses that markedly expanded hearings on climate change and refined policy proposals that embraced emissions trading as the central feature of any new policy. Much of this deliberation drew liberally from the American experience in establishing a cap-and-trade program to address sulfur dioxide emissions from coal-burning power plants through 1990 clean air legislation supported by both a Republican president (George H. W. Bush) and a predominantly Democratic Congress.⁶ In turn, coalitions of environmental groups and varied industry leaders began to converge to negotiate common ground and attempt to shape congressional decisions. At the same time, states began to position themselves individually and collectively for maximal advantage under an anticipated federal climate policy regime, possibly swapping their projected loss of authority over policy in exchange for shaping the terms of any new federal plan.

President Obama seemingly set the tone for a major American climate initiative in his first address to Congress, as he called in February 2009 for "this Congress to send me legislation that places a market-based cap on carbon pollution and

drives the production of more renewable energy in America.” The House of Representatives seemed particularly eager to oblige and four months later approved a 1,427-page bill that called for a 17 percent reduction in American emissions from 2005 levels by 2020. The American Clean Energy and Security Act, also known as “Waxman–Markey” for primary sponsors Henry Waxman (D-CA) and Edward Markey (D-MA), established a complex emissions cap-and-trade system and also added a wide range of other regulatory provisions and incentives in attempting to achieve those emission reduction targets. The legislation passed narrowly, on a 219–212 vote that largely split along party lines. But it appeared to be on a fast track for consideration and anticipated approval by the Senate, with the president promptly noting his general support for the bill and willingness to sign it or something like it. If it had been enacted, the legislation would have placed all existing state and regional cap-and-trade programs into a deep freeze through 2017, preventing them from operating during this period but holding out the option that they might be allowed to restart at a later date.

Rather than the beginning of a major policy development process, however, this was literally the beginning of the end of serious climate policy deliberations in the 111th Congress. Companion versions of Waxman–Markey were quickly introduced in the Senate, but none came close to a floor vote. Several key factors conspired to make the Senate particularly inhospitable to consideration of climate legislation in 2009 and 2010. First, the Senate’s composition (two members per state) gave outsized influence to legislators from fossil fuel–dependent states, making the Senate’s supermajority requirement to enact legislation (60 of 100 members) particularly formidable for any legislation that would threaten fossil fuel extraction or use. Second, the Great Recession hit with unexpectedly strong and extended force, giving the issue of economic recovery predominance over all other issues in American life and thereby marginalizing questions such as long-term climate change mitigation. Third, President Obama ultimately decided to invest his political capital not only in his economic recovery strategy but also a massive reform of the American health care system. The Patient Protection and Affordable Care Act was ultimately enacted and survived a Supreme Court challenge. But it proved extremely controversial and divisive and served to further push climate change to the recesses of Senate deliberations. Any further prospects for congressional engagement on climate change were dashed by the 2010 national elections, which shifted partisan control of the House of Representatives and led to substantial interbranch conflict with the president. This election brought to power a significant number of legislators in both chambers who questioned whether or not there was credible scientific evidence of climate change, much less need for any policy to address the phenomenon. In stunningly short order, Congress shifted from a hotbed of active discussion of climate policy options to a prominent stage for the American effort to discredit

the very existence of climate change, thereby dashing earlier expectations of a comprehensive federal strategy. But none of this precluded states from sustaining, expanding, or abandoning previous policy commitments.

The New Normal: Implementing Bits and Pieces of a National Climate Strategy

There appears to be little if any prospect of revisiting the high-water mark of federal legislative exploration of climate policy in the next several years. Indeed, it remains difficult to envision any near-term scenario that would realistically prompt any future Congress into action on climate change, barring wrenching shifts in weather and storm activity that gave the issue greater salience. Nonetheless, it would be inaccurate to suggest that the United States moves ahead without any semblance of policy designed to reduce greenhouse gas emissions. A diverse set of policies appears to be heading into advanced stages of implementation. Most tend to place state governments in a central role moving forward, whether through policies of their own creation or through a lead role in implementing various federal initiatives. Few economists would embrace this mixture of policies as the most cost-effective approach, and yet there are abundant precedents in the United States for addressing policy issues through a hodgepodge of separate initiatives rather than one uniform and seamless strategy. Collectively, these American policies, if sustained, begin to compose an approach that could indeed continue the recent trend to stabilize and even reduce emissions.

In the best case, full implementation of this set of programs could ironically move the United States into an emissions reduction trajectory roughly in line with what was proposed under the 2009 legislation that passed the House. In perhaps the most thorough analysis of American climate policies to date, a team of analysts from the World Resources Institute assessed “federal regulatory scenarios and state scenarios” and offered alternative emissions reduction paths that might be followed. Using a 2005 emissions baseline, they concluded that “lackluster” implementation would produce a 6 percent reduction in emissions by 2020. But this climbed to 9 percent under a “middle-of-the-road” approach and jumped to 14 percent under a “go-getter” approach. Extending this analysis through 2030 produced a 27 percent reduction scenario from 2005 levels under the go-getter approach. All of this was based on existing federal and state policies but with the reductions contingent on the resiliency and intensity of implementation.⁷ This assessment may prove conservative, given the unexpected rate of emissions decline in recent years, as well as emerging developments that will be discussed later in this chapter. Ironically, the United States may not need comprehensive federal legislation to begin to achieve some emissions reduction targets through a combination of other mechanisms.

The New Era of American Climate Governance

Federal engagement on a policy issue is not necessarily confined to Congress and the legislative process. Under the American Constitution, the executive branch reserves considerable powers of both policy initiation and interpretation. Indeed, a recurring theme in the study of the American executive branch is the continual use of “administrative presidency” powers, whereby a president can take significant unilateral steps when it proves impossible to reach agreement with Congress. In environmental policy, there is ample precedent for this approach, ranging from the formation of the EPA under Richard Nixon to reinterpretation of the Clean Air Act under George W. Bush that offered regulated parties greater compliance flexibility. Such an approach has been aggressively pursued in the Obama administration, accelerating after the 2010 and 2012 elections and applied with particular rigor in the area of climate policy. Ironically, these efforts to establish more active federal engagement not only are designed to bypass Congress but routinely place primary reliance upon states and their lead environmental agencies for interpretation and implementation.

Revisiting the Clean Air Act

While the 1990 Clean Air Act is best remembered for ushering in emissions trading for sulfur dioxide under Title IV, it also included under Title V considerable tightening of conventional regulatory standards for many other major point sources of air pollution. The legislation also provided some flexibility, whereby the executive branch and the Environmental Protection Agency could make future adjustments as new scientific evidence emerged concerning risks from exposure to air contaminants. These possible adjustments included the addition of various air emissions that science found to pose a public health threat as well as revisiting regulatory standards over time. As is the case with most American environmental legislation, there has been no successor legislation to the 1990 law, reflecting the ongoing deadlock in respective Congresses and protracted conflicts with various presidents. This gave President Obama considerable latitude in reconfiguring an older statute to serve the new purpose of reducing greenhouse gas emissions, albeit one heavily dependent on state government interpretation and contingent on his ability to remain in office. The president embraced the 2007 Supreme Court decision discussed in the prior chapter (*Massachusetts v. EPA*), leading to a prompt EPA “endangerment finding” that deemed carbon dioxide to be an air pollutant, thereby subject to the terms of the Clean Air Act. Obama threatened to use this finding to expand federal regulatory power over carbon emissions if Congress failed to enact climate legislation. The 2010 collapse of Senate climate deliberations then prompted the president to begin applying clean air standards to new power plants

in 2012, with an expansion of coverage to all operational plants embraced after his 2012 re-election.

Air quality permits are generally issued by state environmental agencies in conjunction with "state implementation plans" negotiated with the EPA. But states have very different philosophies and capacities, and the first years of intergovernmental implementation suggests that this process could lead to very different application of these provisions in different parts of the nation. A number of states have devised greenhouse gas emissions reduction programs in previous years; these generally tend to be "leader" states with strong environmental enforcement and performance records, including nearly all states in the Northeast and along the Pacific Coast. Many of these states have approached the new EPA requirements as an opportunity to gain credit for their own climate policy commitments and early emissions reductions, potentially easing federal compliance processes. There is considerable precedent in federal environmental policy and American intergovernmental management more generally to provide rewards and incentives for so-called early movers, in some cases encouraging them to "race to the top." States may have particular latitude in this case to think outside the box, as there is no singular best available control technology for reducing greenhouse gas emissions that can be uniformly applied to all sources, particularly as the federal policy expands to cover not only proposed plants but also established ones. Indeed, the 2013 confirmation of Gina McCarthy to head the EPA included strong signals that the agency wanted to make climate change a pillar of collaborative relationships with states that included tangible federal incentives for outstanding innovation and performance. McCarthy, who formerly oversaw environmental agencies in Connecticut and Massachusetts, designated "Launching a New Era of State, Tribal and Local Partnerships" as one of her top priorities and began an active outreach process with states.⁸

At the same time, not all states may see this as an opportunity for innovative environmental governance. In fact, the federal government may intensify oversight pressure on any states deemed laggards. Texas is the largest source of greenhouse gas emissions among the 50 states and has the largest number of industrial facilities likely to fall under Clean Air Act auspices. But the state has repeatedly and stridently rejected the notion that there is any legitimacy to the EPA climate effort. This has led to denunciations of the Obama administration effort by Governor Rick Perry and Attorney General Greg Abbott as well as a leadership role among states trying to thwart this process through litigation. At the same time, it may lead to a particularly contentious and expensive implementation process, as EPA staff began in 2012 to assume responsibility for this permitting process from the Texas Commission on Environmental Quality, given the refusal of state authorities to cooperate. It appeared that this expanded federal role might foster a more rigorous application of federal permit provisions in Texas than in other states, producing

concern among some regulated parties that the state's intransigence may ultimately prove costly for them. State responses to this emerging form of federal engagement will be a significant test of their commitment to finding innovative and effective ways to reduce greenhouse gas emissions.

Vehicular Fuel Efficiency

Presidents have long retained authority over altering regulatory standards for fuel efficiency levels in new cars and trucks. This stems from energy legislation enacted in the mid-1970s, although most presidents have moved cautiously or entirely ignored opportunities to tighten standards. The 2007 Energy Independence and Security Act reopened this issue, establishing a slight increase in fuel efficiency standards but delegating future decisions to the executive branch. As in the case of air emissions, the Obama administration has used these powers aggressively. This began with a 2009 agreement that required a five-year phase-in of major fuel economy increases through 2016, from 27 miles per gallon in 2011 to 35.4 miles per gallon in 2016.

This followed a period of intensive intergovernmental bargaining, with the administration in essence embracing a legislative proposal from California and allied states to take an ambitious stance on this issue. California reserves unique status on federal legislation to establish air quality standards for vehicles above the levels of existing federal standards. If approved by the federal government through a "waiver" process, any other state can then establish standards at the same level as those of California.⁹ This has frequently generated a ratcheting-up effect, whereby California acts first, some other states join it in alliance, and the federal government embraces the position as a national standard to create a uniform system. President Obama in fact announced the 2009 agreement at a Rose Garden ceremony featuring three prominent governors.

But this was only the beginning of an expanded administrative presidency stance on this issue. In November 2011, President Obama announced that the 2016 fuel efficiency targets would be the beginning and not the end of the expanded use of this policy tool. As of 2017, fuel efficiency would be required to increase by 5 percent each year for cars, and between 3.5 and 5 percent annually for light trucks, reaching a level of 54.5 miles per gallon by 2025. This would effectively double current levels of fuel efficiency by the middle of the next decade. As with EPA air regulatory standards, this has proven controversial and triggered concerns in Congress. But it also demonstrates the role of individual states as a potential lever for federal action, given the pivotal role of California in prodding a national response.

Future Prospects

These federal initiatives all demonstrate the authority of a federally elected executive to work with existing statutes but markedly expand their scope. They could

have significant consequences on American greenhouse gas emissions for decades to come. Any future impact, of course, will be contingent on continuing executive branch support for implementation, though this appeared likely in the aftermath of President Obama's 2012 re-election and selection of a new EPA leadership team to sustain this approach. Moreover, the EPA's new use of air quality legislation is heavily contingent on some form of administrative collaboration with states issuing permits through their state implementation plans. In turn, states present other possibilities for additional greenhouse gas emission reductions through their own unilateral or collective efforts, continuing a prominent role that they began to assume in the 1990s.

The Evolving Era of State Climate Governance

State governments have continued to adjust their role in climate policy. During an extended period of federal inertia in previous decades, many states launched unilateral policy experiments, with strong emphases on renewable energy development and promotion of energy efficiency. States face some constitutional constraints on policy options, most notably those imposed by the commerce clause, which precludes any restriction on interstate movement of goods and services. But a vast array of state policies were enacted during a period of state domination of American climate policy that ran from the late 1990s through the latter 2000s, when a significant federal role seemed politically infeasible.¹⁰ Many of these policies are positioned to move into advanced stages of implementation, with potentially significant impacts on emissions.

However, the state government role in climate policy has faced a series of challenges in recent years, generating questions about the resiliency of policies enacted in recent decades. First, the pace of state climate policy development and the diffusion of innovations across multiple states slowed dramatically in the late 2000s. This was attributable in part to the growing expectation that the federal government was likely to enact a comprehensive climate policy and thereby assume a dominant role. Under many competing federal policy options, some form of pre-emption of existing state policies was prominent, as discussed above in the case of the Waxman–Markey legislation. States slowed their initiation of new policies amid this uncertainty and instead began to position themselves for maximal advantage under any new federal policy regime. They have more recently begun to readjust to the reduced likelihood of major federal intervention at any point in the near future while also preparing to assume a lead role in air quality permit development.

Second, some state climate policies have faced a political backlash and possible repeal or retrenchment. This reflects some major shifts in state government leadership, particularly key gubernatorial transitions. Executive branch swings in states

such as Arizona, New Mexico, and Utah contributed to the collapse in 2011 of the Western Climate Initiative (WCI). The WCI had begun several years earlier as a partnership between seven states and four provinces with the goal of establishing a cap-and-trade program that sought a 15 percent reduction in all greenhouse gas emissions from 2005 levels by 2020. Provincial commitment has also waned, leaving California and Quebec as the remaining partners to begin a 2013 launch of carbon cap-and-trade, though other jurisdictions have indicated some interest in revisiting this or pursuing other cross-unit partnerships.

A similar initiative among midwestern states and the province of Manitoba, known as the Midwestern Greenhouse Gas Reduction Accord (MGGRA), suffered a similar implosion, with a 2007 memorandum of understanding now essentially ignored by all participating jurisdictions. Even the original regional cap-and-trade program, the Regional Greenhouse Gas Initiative (RGGI), faced challenges as it moved into its sixth year of operations in 2013. Most notably, New Jersey formally withdrew from the interstate program in 2011, and a few others began to contemplate a similar step. However, RGGI has maintained quarterly carbon allowance auctions, generating substantial funds for state renewable energy and energy efficiency programs, and all remaining states tightened their carbon caps by more than 30 percent in 2013. Other state-specific climate policies moved ahead while also facing implementation challenges. For example, states such as Colorado, Connecticut, Minnesota, and Montana considered scaling back their plans to expand renewable energy through state mandates known as portfolio standards. Such standards mandate a steady increase in the supply of a state's electricity that comes from renewable sources. Opposition to these standards has included proposals to either delay implementation or reduce the levels of required new renewable energy development, although no major changes had been approved as of mid-2013. Thirty-six states retained climate action plans that estimated greenhouse gas emissions and outlined possible policy steps, but most of these have lacked statutory teeth and have frequently proven easy for state governments to ignore. Questions have arisen as to whether or not these plans had produced enduring policies or demonstrable emission reductions or were instead largely analytical and symbolic exercises.¹¹ The vast majority of state policies enacted in recent decades remain operational, but this reversal on some high-saliency cases raises questions about their long-term sustainability as political leaders and economic conditions change.

Third, a cluster of states shifted from positions of neutrality or indifference to climate policy toward active opposition toward emerging federal policies. The governor and attorney general of Texas have not only opposed new EPA initiatives regarding greenhouse gas and air emission permits but have led multistate efforts to challenge these in court. They have also emerged as outspoken opponents of new vehicular fuel efficiency requirements and renewable fuel standards reliant on corn-based ethanol. But Rick Perry and Greg Abbott have increasingly had company in

this arena, with at least 16 states joining one or more of their legal challenges. States attorneys general have been particularly active in exploring ways to challenge the legitimacy of federal action as well as climate science. Virginia's Mark Cuccinelli, for example, routinely expressed his doubts about the existence of climate change and actively opposed many Obama administration policy interpretations. He also sought release of documents from the University of Virginia concerning the climate research of a former faculty member, alleging that this might reveal instances of fraudulent use of state funds. Although states attorneys general are elected on a partisan basis, state environmental agency heads are usually appointed by their governors and tend to follow closely the directions of the elected executive.

These developments have served to challenge but not eviscerate the ongoing state government role in climate policy. Alongside these emerging stumbling blocks, a substantial body of policy implementation continues to move forward. In many instances, states have reaffirmed their policy commitments or even expanded them in various ways. This leaves an uneven pattern of state policy engagement, with the states most intensively involved generally located along either the west or east coasts. But they serve to sustain the "bottom-up" element of American climate policy development that emerged so unexpectedly in the 1990s and 2000s and is linked in many ways to evolving federal efforts.

The Dominant Early Mover: California

California has long emerged in studies of American state government as among the very first to take unilateral steps in emerging areas of public policy. Environmental protection has long been among those areas of particularly active interest, including development of an aggressive air quality regime well in advance of the federal government.¹² State air quality policies have contributed to a significant decline in conventional air contaminants and also served to give California the highest level of per capita energy efficiency in the nation. This early and sustained engagement also has given the state a position of unique influence in shaping federal policy.

In the clean air case, California's very early commitment to far-reaching policy enabled it to secure a unique agreement with Congress, allowing it to request a federal waiver to establish air quality standards above any federal baseline. As noted above in the vehicle emissions case, once federal approval is granted, which has occurred routinely across five decades, any other state may emulate the California policy. This creates the possibility of two competing standards in operation within different sets of states. It has regularly served as a prod for upward movement in national air quality standards, with the federal government frequently embracing the position originally taken in Sacramento. This was exactly the formula that led to major recent increases in federal vehicular fuel economy standards. California legislation enacted in 2002 (Assembly Bill 1493)

recognized the lack of state jurisdiction to set fuel economy standards but instead set vehicular emission levels so as to coincide with preferred state fuel economy targets. This ultimately served as the lever for Obama administration decisions to make the California standard the national one.

The state has also sought aggressive unilateral reductions in greenhouse gas emissions and attempted to work collaboratively to the extent possible with other states and provinces. California's 2006 Global Warming Solutions Act (Assembly Bill 32) remains the most ambitious climate legislation enacted anywhere in North America and among the most aggressive policies in the world. The legislation established greenhouse gas reduction targets 15 percent below 2005 levels by 2020 and 80 percent below 1990 levels by 2050. It also ushered in a cap-and-trade system across multiple greenhouse gases and sectors of the economy that was expected to address approximately 85 percent of total state emissions. This policy decisively survived a ballot proposition challenge that would have essentially halted implementation, with Prop 23 defeated by a 61-to-39 percent margin in November 2010.

This step allowed movement toward full implementation, featuring a plan to establish an emissions trading infrastructure, convene quarterly auctions, develop public disclosure and reporting provisions, and allow Quebec and possibly other states or provinces to join as partners. This was designed to allow transition into full operation in January 2013 through a series of regular carbon allowance auctions. These auctions were expected to generate more than \$1 billion of new revenue for California per year, with considerable political support for using the bulk of these funds to promote energy efficiency and renewable energy or to support local communities facing the most serious immediate impacts of climate change. Several court challenges remain, however, including suits filed by oil refineries, environmental justice groups, and firms that generate electricity in other states. Given the implosion of the WCI network, California now represents the most prominent North American experiment in attempting carbon cap-and-trade on a large scale, with an enduring base of political support and growing interest in forming partnerships beyond North America.

California's approach to climate change goes well beyond fuel economy standards and carbon cap-and-trade, however. At the same time that some states are considering easing their renewable portfolio standard (RPS) targets, California has moved in the opposite direction. Legislation enacted in April 2011 increased the state's binding renewables target for 2020 from 20 percent to 33 percent, with interim targets of 20 percent by the end of 2013 and 25 percent by the end of 2016. The state is also working to include more than 40 publicly owned utilities in the RPS process, thereby eliminating their earlier exemption. The state also continues to pursue a wide range of energy efficiency programs, a low-carbon fuel standard, feed-in-tariffs for small renewable energy projects, and a public benefit charge on electricity use that helps fund many of these state programs. The low-carbon fuel

standard, however, has been challenged in court, as other states contend California is trying to impose its policies beyond state borders, thereby raising possible violation of the commerce clause.¹³ In turn, the benefit charge faces some uncertainty, since its reauthorization would require a supermajority vote given 2010 changes in the California constitution that classify some fees and charges as, in essence, taxes.

Collectively, these various programs serve to maintain California's status as an American early mover on climate change. Former Governor Arnold Schwarzenegger and other state leaders laid claim to state status as a world leader on climate change in 2006, when the Global Warming Solutions Act was signed into law. California further promoted itself as developing the "first-in-the-world comprehensive program" to combat climate change as well as "the most radical climate policy in the world."¹⁴ At the time, this seemed a bit hyperbolic and, if anything, likely to soon be overtaken by federal initiatives in Washington DC and Ottawa, among other capitals. But the basic infrastructure of this approach has endured leadership changes as well as both political and legal challenges, leaving California in a unique position nationally, continentally, and globally. California political and climate policy leaders would no doubt welcome more state and provincial allies in their efforts, including states such as Arizona, Oregon, and Washington and provinces such as British Columbia, Manitoba, and Ontario that made bold initial pledges for collaboration through the WCI but have largely backtracked as implementation neared. Nonetheless, Quebec has remained a fully active partner, and other jurisdictions may revisit this, in part because of new federal incentives to take constructive policy steps.

Energy Efficiency Resource Standards

California may remain an outlier among states, although it hardly stands alone in trying to find ways to reduce greenhouse gas emissions. One policy tool that has received growing political support and experienced increased state adoption is an energy efficiency resource standard (EERS), a "performance-based mechanism that requires electricity and natural gas distributors to achieve a percentage of energy savings relative to a baseline."¹⁵ Twenty-four states have now established some version of an EERS, either on a stand-alone basis (such as Arizona, Indiana, Ohio, and New Mexico) or embedded into an RPS (such as Connecticut, Nevada, and North Carolina). According to an October 2011 report by the American Council for an Energy-Efficient Economy (ACEEE), states have continued to expand not only energy efficiency resource standards, but also a range of related energy efficiency initiatives, such as building codes, electricity decoupling programs, public benefit charge programs to fund expanded energy efficiency funding, and government purchase of high-efficiency vehicles and lights. In some cases, this entails coming into full compliance with either professional codes of conduct or international best

practice standards, such as the International Energy Conservation Code. According to the ACEEE report, “Amid the acrimonious debates over state budget deficits, state government policymakers from both sides of the aisle pushed for energy efficiency in homes, businesses, and their own state government facilities.”¹⁶ Many of these state policies could clearly be coordinated with those of neighboring states, including state–provincial collaboration that would build on existing state and provincial partnerships in electricity and other arenas of energy policy. As Linda Breggin of the Environmental Law Institute has noted, “What is remarkable is not that California is leading the country but how many other states are on the move as well.”¹⁷ The ACEEE has produced a comprehensive ranking of the 50 states based on the intensity of their commitment across various policy options. As noted in Table 3.1, such states as Massachusetts, California, New York, Oregon, Connecticut, Rhode Island, and Vermont have received the highest scores in recent years.

TABLE 3.1 State Energy Efficiency Rankings, 2013

<i>Rank</i>	<i>State</i>	<i>Score 2013</i>	<i>Score 2012</i>
1	Massachusetts	42	43.5
2	California	41	40.5
3	New York	38	39
4	Oregon	37	37.5
5	Connecticut	36	34.5
6	Rhode Island	35.5	33
7	Vermont	34.5	35.5
8	Washington	33.5	32
9	Maryland	27.5	30
10	Illinois	26	25
11	Minnesota	25.5	30
12	New Jersey	24.5	24.5
12	Arizona	24.5	25.5
12	Michigan	24.5	25.5
12	Iowa	24.5	26.5
16	Maine	23	19
16	Colorado	23	25
18	Ohio	22.5	19.5
19	Pennsylvania	22	21.5
20	Hawaii	20.5	22
21	New Hampshire	20	22

<i>Rank</i>	<i>State</i>	<i>Score 2013</i>	<i>Score 2012</i>
22	Delaware	18.5	18.5
23	Wisconsin	18	22.5
24	New Mexico	17.5	18.5
24	North Carolina	17.5	19.5
24	Utah	17.5	20
27	Indiana	15.5	14
27	Florida	15.5	17.5
29	Montana	15	19
30	District of Columbia	14	17.5
31	Tennessee	13.5	15
31	Idaho	13.5	19.5
33	Georgia	13	14
33	Texas	13	14
33	Nevada	13	16.5
36	Virginia	12.5	13
37	Oklahoma	12	11
37	Arkansas	12	13
39	Kansas	11.5	8.5
39	Alabama	11.5	10.5
39	South Carolina	11.5	10.5
39	Kentucky	11.5	13.5
43	Missouri	10.5	9
44	Louisiana	9.5	9
44	Nebraska	9.5	9.5
46	West Virginia	9	6
47	Mississippi	8	2.5
47	Alaska	8	8
47	South Dakota	8	8
50	Wyoming	5.5	6.5
51	North Dakota	3.5	4

*The score is the combined total of points from each of the following categories, with 50 total possible points: utility and public benefits fund efficiency programs and policies score—20; transportation score—9; building energy code score—7; combined heat and power score—5; state government initiatives score—7; appliance efficiency standards score—2.

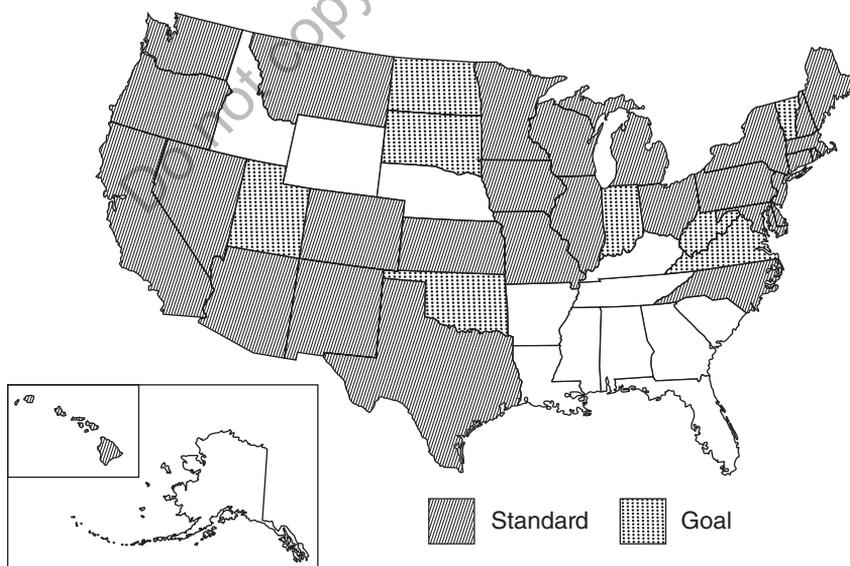
Source: American Council for Energy-Efficient Economy (2013).

Renewable Portfolio Standards

Despite some legislative proposals to set more modest targets in some states, the vast majority of the 29 states that have enacted RPSes are moving into advanced stages of implementation with solid political support. These RPSes operate in one or more states in every region of the United States except the Southeast, as depicted in Figure 3.1. Much like energy efficiency resource standards, RPSes have continued to retain considerable bipartisan support. Some states continue to embrace the RPS as a climate policy tool, whereas others focus primarily on other perceived RPS benefits, such as reduction of other environmental threats and possible economic development benefits. Collectively, RPSes remain a significant component of state climate strategies.

Ironically, Texas's outsized opposition to most federal efforts to reduce greenhouse gas emissions did not transfer to the issue of state RPS development. The first Texas RPS was signed into law in 1999 by then-Governor George W. Bush, and his successor, incumbent Rick Perry, signed a major expansion into law six years later. The level of electricity that Texas receives from renewable sources jumped from less than 1 percent in 2000 to more than 10 percent by 2013; this pattern of growth is likely to continue, as the role of wind is expected to expand in the state, while the role of coal will likely decline, with particularly robust wind

FIGURE 3.1 Renewable Portfolio Standards Policies



turbine expansion in the western part of the state. As Perry has noted, "Texas is the nation's leader in wind energy, thanks to our long-term commitment to bolstering renewable energy sources and diversifying the state's energy portfolio."¹⁸

Collectively, state RPSes are scheduled to add 76,650 megawatts of new renewable electricity by 2020, which would represent a 570 percent increase from 2000 levels. The majority of this new energy has been derived from wind, although a number of states are attempting to promote a wider mix of new sources, including solar and geothermal, in later rounds of RPS implementation. These policies continue to receive substantial public support in public opinion surveys, far more so than market-based tools such as cap-and-trade and carbon taxes.¹⁹ They also create considerable opportunities for multijurisdictional partnerships given the cross-border movement of much electricity in Canada and the United States. However, the pace of expansion for these policies to additional states began to slow in the 2010s. As Diana Forster and Daniel A. Smith discuss in detail in Chapter 6, Michigan voters decisively rejected in November 2012 a proposed ballot proposition to expand their existing RPS to a target of 25 percent renewable energy by 2025. Interpretation of this vote was complicated by the decision to make this proposal a constitutional amendment, one of five such amendments on the ballot at the same time, all of which were defeated.

Coal Phaseout

The state RPS push to expand the base of renewable electricity sources potentially poses a challenge to providers of traditional energy sources, such as coal. But a series of state policies that have raised sobering questions about the desirability of approving permits for proposed new coal-burning facilities may also be contributing to a transition away from coal. Indeed, some of these steps may ultimately serve to expand natural gas use as well as work hand in hand with federal efforts to reduce conventional and greenhouse emissions from coal facilities, and thereby reduce coal's historically dominant role in electricity generation in the United States.

These state policies have taken different forms, often linked to formal procedures for approval of either new energy-generating facilities or expansion of existing ones. In Kansas, for example, the administration of former governor Kathleen Sebelius raised major concerns in 2007–08 about a proposal by the Sunflower Electric Power Corporation to open a pair of major coal-burning facilities that would produce 1,400 megawatts of electricity. State concerns focused on a mixture of issues, including conventional air contaminants, greenhouse gas releases, and whether such an expansion of electricity supply was needed in the state. This led to a decision to trim the proposal to a single facility that would produce 895 megawatts in conjunction with creation of an RPS for the state. It is possible that the new coal capacity will never be added, given declining demand and the emergence of alternatives that include natural gas.

Similarly, in Michigan, a 2009 executive order by then-Governor Jennifer Granholm required a thorough review of alternatives prior to regulatory approval of new coal-based facilities. This led to a state permit denial for a proposed new coal plant and then litigation. However, the utility proposing the facility withdrew its request in late 2011, citing changing market conditions. Alongside these more indirect attempts to block coal, other kinds of state measures have been enacted. One of the most aggressive is the 2009 Colorado New State Act, which is designed to facilitate a coal phaseout in favor of expanded reliance on natural gas and renewables in conjunction with its RPS. The pace of cancelling new coal-burning plants only accelerated in recent years, with one or more proposed plants shelved in such states as Georgia, Illinois, Mississippi, and Texas.

Resilient Regionalism and Implicit Carbon Pricing

The demise of both the WCI and its midwestern counterpart raise sobering questions about the sustainability of any multijurisdictional climate policy initiative. States and provinces have periodically signed regional agreements that are bold but nonbinding and hence largely symbolic. But these regional cap-and-trade pacts appeared to be quite different, reflecting more formal commitments by participants and extensive negotiations to facilitate implementation.²⁰ Even the RGGI has been weakened by the exit of New Jersey and the continued inability to secure participating pledges from other states and provinces that have instead retained nonbinding “observer” status.

The RGGI, nonetheless, continues to operate in nine northeastern states, running a cap-and-trade program designed to stabilize and gradually reduce carbon emissions from coal-burning power plants in the region.²¹ The RGGI likely had little if any impact on overall emissions in its early years, following a rapid plunge in electricity demand in the region due largely to the recession that produced a rate of carbon emissions well below the current cap. At the same time, the RGGI has demonstrated that a carbon cap-and-trade system can run with what appears to be a high level of proficiency and transparency. Moreover, its use of the auctioning process to allocate allowances has generated significant revenue for participating states. Its first four years of quarterly auctions produced more than \$1 billion, about 80 percent of which was transferred directly to support state energy efficiency and renewable energy programs. Indeed, this approach has had considerable influence on other jurisdictions committed to some form of carbon trading, including California and the European Union Emissions Trading Scheme, in embracing some form of auctioning rather than free allocation. Moreover, the nine RGGI states agreed to a significant lowering of the regional cap in 2013, producing an immediate increase in auction prices and likely future emission reductions.

Related to this, the RGGI auctions have emerged as one of a series of measures whereby states impose some form of tax, fee, or charge on the use of fossil fuels. This falls far short of a pure carbon tax but nonetheless has the effect of elevating the cost of using fossil fuels and then shifting those revenues directly toward programs that provide alternatives. Many states are currently revisiting the option of using severance taxes on the extraction of fossil fuels, creating a potentially large revenue source and building on the previous experience of energy-endowed states such as Alaska, Texas, Oklahoma, and Wyoming. The significant expansion of natural gas derived from hydraulic fracturing is a particularly prominent target for such consideration, leading a growing number of states to consider either creating such a tax or expanding existing ones, with a possible transfer of revenues to climate-friendly programs. There is no singular pattern yet emerging in this area, but these varied efforts reflect state capacity to set an “implicit carbon price” that, in effect, has the same effect of explicit carbon taxes in jurisdictions such as British Columbia in Canada and several European nations.²²

Where Next for American Climate Policy? Emerging Issues

American politics and governance remain volatile, making any projection of future developments difficult at best. The Great Recession and uncertain recovery continued to dominate American political discourse in the 2010s. Climate change policy appears to be a relatively low priority for Congress and many states, although this could conceivably change in the coming years. Nonetheless, as this chapter has noted, a number of federal and state policy developments have converged to give the United States a climate policy strategy, albeit a patchwork process at considerable variance from earlier proposals for a comprehensive national system. Looking forward, there are several emerging factors that could influence the future shape of American policy and the national trend in greenhouse gas emissions.

Whither the Economy?

Perhaps the greatest climate irony of the past half-decade is that the collapse of federal negotiations over a far-reaching climate bill has coincided with an unanticipated plunge in American greenhouse gas emissions. According to a 2011 EPA study, national greenhouse gas emissions dropped approximately 7.7 percent between 2005 and 2009. There were outright declines in three of these years, with the steepest drops in emissions registered in 2008 and 2009. The EPA has noted that a primary contributor to this trend has been the decline in economic output that has decreased energy consumption across sectors. The agency also discovered a reduction in the carbon intensity of fuels that are used to supply energy; it is plausible that some combination of federal and state policies contributed to this

transition, although the EPA has not estimated their impact to date. But clearly the American Great Recession triggered a level of emissions reduction that moved it during 2005 and 2009 approximately one-half of the distance established in the Waxman–Markey legislation through 2020 (15 percent below 2005 levels). Early estimates from 2010–12 suggest that there was only modest emissions rebound amid the early signs of recovery, perhaps suggesting a genuine shift toward somewhat greater energy efficiency. Indeed, the think tank Resources for the Future noted in late 2012 that “the expectation is that our emissions growth ahead will be modest.”²³ When combined with the evolving American policy initiatives discussed above, it is possible to envision an American emissions trajectory over the coming decade that reflects stabilization or perhaps further decline, raising a question about the future impacts of various state and intergovernmental policies over the longer term.

Whither Fracking?

A surge in production of natural gas derived from hydraulic fracturing (or “fracking”) techniques is a primary factor driving the transition from coal to this substantially cleaner fossil fuel source in American electricity. This represents a dramatic shift from much of the 2000s, when energy policy analysts anticipated a decline in American natural gas yields and soaring prices amid scarcity, thus making both coal and other alternatives appear more promising for the future. Natural gas produces only one-half of the carbon dioxide emissions per unit of energy generated that coal produces. According to a 2012 Resources for the Future analysis, “Carbon dioxide emissions are in decline not only as a result of the economic slowdown but also because of heightened efficiency and a change in our fuel mix, especially in the electricity sector.”²⁴

The absence of a federal regulatory regime for fracking leaves regulatory authority with the states, thus far producing a highly uneven pattern of policies.²⁵ Fracking poses a wide range of environmental concerns, including groundwater contamination, air emissions that can include greenhouse gases such as methane, management of wastewater that returns to the surface after use, and even seismic activity following chemical injection below ground. Despite these concerns, most states appear likely to encourage the expansion of fracking and thereby achieve a dramatic increase in national use of natural gas in the coming decades, with potentially large reductions in greenhouse gas emissions when coal is being replaced. Indeed, several states, such as Pennsylvania and Texas, saw significant electricity sector emission declines alongside substantial replacement of coal with natural gas in 2012.

This issue, however, remains highly contentious. On the one hand, natural gas could further marginalize coal use in electricity generation, and it could replace oil and gasoline as transportation fuels as well, should proposals to expand its use move

forward. The rapid expansion of American supplies of both gas and oil from shale deposits also served to heighten the uncertainty surrounding proposals to expand exports of oil from Albertan tar sands via controversial new routes, such as the proposed Keystone XL pipeline. On the other hand, it is possible that natural gas will offer an available and inexpensive alternative to renewable sources such as wind and geothermal. The massive shale gas deposits scattered across the United States, as well as the rapid development of natural gas production recently, suggest that natural gas will be a far greater player in the American context than could have been envisioned just a few years ago, with states likely assuming a dominant role of policy development and formation in coming years.

Whither Public Opinion?

Public opinion on climate change, as discussed by Dennis Chong in Chapter 4, has undergone significant shifts in recent years. But there were numerous signs that public opinion began to “rebound” on this issue in 2011–12, reflecting increased measures of belief in climate change and support for some mitigation policies. The National Surveys of Energy and Environment at the University of Michigan and Muhlenberg College have been tracking these trends for a number of years, and they found in their fall 2012 survey that strong majorities of Americans felt that federal, state, and local governments should assume either “a great deal of responsibility” or “some responsibility” for “taking actions” to reduce climate change, as demonstrated in Table 3.2.²⁶ In turn, these findings reflected some increase in support for cross-level action from prior years, as noted in Table 3.3. This same survey found strong public support for national policy options such as renewable portfolio standards and increased vehicular fuel efficiency. It also found, for the first time, a plurality of support for a national carbon tax. In each case, however, support declined when a steep price tag was added.

TABLE 3.2 Public Support for Governmental Responsibility to Address Climate Change, 2012

Responsibility for Reducing Global Warming, by Level of Government				
<i>Level of government</i>	<i>A great deal of responsibility</i>	<i>Some responsibility</i>	<i>No responsibility</i>	<i>Not sure</i>
The federal government	51%	22%	21%	6%
State governments	44%	28%	22%	7%
Local governments	38%	30%	26%	7%

Source: Center for Local State, and Urban Policy, University of Michigan (2012).

TABLE 3.3 Public Support for Governmental Responsibility to Address Climate Change, 2012

Percentage of Americans Who Believe That Government Has a Great Deal of Responsibility for Taking Actions to Reduce Global Warming					
<i>Level of government</i>	<i>Fall 2008</i>	<i>Fall 2009</i>	<i>Fall 2010</i>	<i>Fall 2011</i>	<i>Fall 2012</i>
The federal government	48%	53%	43%	42%	51%
State governments	34%	37%	35%	32%	44%
Local governments	26%	34%	29%	29%	38%

Source: Center for Local State, and Urban Policy, University of Michigan (2012).

Intergovernmental Collaboration?

The collapse of the western and midwestern regional climate initiatives underscores the challenge of sustaining multijurisdictional collaboration. Both of these involved clusters of American states and Canadian provinces and once seemed promising models for climate policy collaboration between subfederal units in the two nations. However, one new initiative launched in November 2011 holds out some promise of renewed engagement of this type. The creation of “North America 2050: A Partnership for Progress” (NA 2050) was intended to facilitate provincial and state government efforts to establish and implement policies that reduce greenhouse gas emissions and create economic opportunities. This builds on the experience of the Three-Regions Collaborative, whereby leaders of the WCI, RGGI, and MGGRA launched efforts to share information and consider possible linkages between these proposed carbon trading systems. NA 2050 is open to all American and Mexican states and Canadian provinces and includes the goals of identifying “new leadership opportunities as climate and energy policy in North America continues to evolve.”

It remains unclear just what this initiative will attempt to do, although it has proposed creation of working groups for policy analysis, the electricity sector, industrial energy efficiency, sequestration, biomass, offsets, and interprogram linkage. There are also additional signs that American states are exploring new ways to consider possible collaboration, despite the differences among some of them noted in earlier sections. The Environmental Council of the States (ECOS), for example, began a new initiative in 2011 to challenge states to work together to develop a “common GHG reduction policy.” ECOS represents the lead environmental agency officials of the 50 states and has faced some rifts between climate leader and laggard states. But the new strategy is designed to try to bridge those differences by naming Delaware (widely seen as a national leader) and Indiana (widely seen as a

national laggard) as coconveners of an effort to develop a consensus ECOS policy on climate change. These examples illustrate continued potential for states to work together, in part in response to the absence of a comprehensive federal role.

Of course, individual and collective state action may receive a further impetus from the emerging federal attempt to apply air quality standards to carbon emissions. The repeated indicators from Washington that the EPA wants not only to learn about state best practices on climate mitigation but also to reward states with more flexibility in meeting federal mandates could be a powerful source of expanded state engagement, potentially leading to a state race to the top to curry favor with federal authorities. As California Air Resources Board Director Mary Nichols noted in 2013,

Having worked with EPA in the past and knowing their inclination to try to encourage action at the state level, we would expect them to bend over backwards to find ways to encourage and accommodate states that have already been moving . . . on pricing carbon.²⁷

Whither Taxation and Budgets?

The 2012 national election was rapidly followed by intense battles over the federal budget and deficit as well as comparable debates in many states facing revenue shortages. Numerous proposals for far-reaching reforms of federal programs and the federal tax system emerged, including those from a series of commissions charged with developing a viable, long-term fiscal strategy for the nation. These have frequently included some reference to increased energy taxation or some form of a federal consumption tax as a primary way to raise additional revenue and thereby discourage consumption. It is impossible to anticipate the outcome of the coming debates, but it should be noted that it is possible that one or more versions of tax reform could serve to increase the levels of taxation applied to energy consumption, possibly moving toward the type of implicit carbon price noted earlier. This might parallel the experience abroad, such as that in the Canadian province of Ontario, which has harmonized its sales tax with the federal government and thereby increased taxation on energy as part of a larger tax base shift.

In turn, these discussions coincide with discussion of major questions surrounding the future of federal and state support for transportation infrastructure. Existing federal and state gasoline taxes produce declining yields given increased vehicle fuel economy, triggering considerable exploration for alternative revenue sources, most likely through some expanded levy on fuel or transportation or some new form of taxation, such as a charge per vehicle-mile traveled. Public opinion surveys consistently find that American support for expanded energy taxation increases significantly when the revenues are allocated toward popular programs,

such as infrastructure development and repair or alternative energy development. Yet again, the United States may ultimately back into a suite of policies that collectively serve to reduce greenhouse gas emissions, even though their primary emphasis is on raising revenue.

Indeed, similar conversations are under way in many states, which are facing their own fiscal challenges and considering alternative revenue streams. Numerous states began to consider possible gas tax increases or reforms in 2013, all with the intent of generating a larger and steadier body of revenue to maintain transportation infrastructure. One possible model here might be just over the American border, where the Canadian province of British Columbia enacted a carbon tax in the late 2000s that reached \$30 per ton in 2012 and returned all revenue to citizens via reductions in other taxes. This policy was proposed initially by a center-right government and has endured changes in political leadership, having demonstrated some capacity to reduce emissions, not deter economic growth, and sustain political support.

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