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Edited by Gregory K. Ingram and Yu-Hung Hong

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American Federalism and Climate Change: Policy Options and Public Opinion

Barry G. Rabe and Christopher P. Borick

The inauguration of the 44th president of the United States and the beginning of the 111th Congress in early 2009 appeared to present a unique opportunity for the federal government to expand its role in climate change mitigation by drawing lessons from an expansive body of state and local policy experience generated over the past decade. This moment also opened a possibility for an intergovernmental partnership that might sort out respective functions and consider ways to either share governance responsibilities across government levels or concentrate select responsibilities within specific levels. Indeed, there is ample precedent in American government whereby state experimentation sets the stage for a more blended system, including a number of areas relevant to environmental protection.

Yet by the time the 111th Congress adjourned in December 2010, it appeared highly doubtful that such a process would occur in the near future. Moreover, it seemed increasingly likely that no comprehensive federal legislation would be enacted in the next Congress, although some provisions related to alternative energy development and energy research and development may still move ahead. The American Clean Energy and Security Act, passed by a 219–212 vote in the House of Representatives in June 2009, was later withdrawn from serious consideration. Its 1,482-page text included a dizzying array of policy provisions, far short of a coherent approach to sorting out intergovernmental responsibilities or building federal law on the basis of actual state and local experience in climate policy implementation. In its place, the U.S. Environmental Protection Agency continues to attempt to apply provisions of the 1990 Clean Air Act Amendments

to major industrial sources of greenhouse gases (GHGs). In addition, federal agencies have begun to implement a renewable fuel mandate approved in 2007 and an agreement to increase corporate average fuel efficiency brokered in early 2009. In May 2010, the American Power Act was introduced in the Senate. Seen as the possible last chance to enact far-reaching energy legislation, it was withdrawn from review well before the November 2010 elections. As the books closed on the 111th Congress, there had been little movement on climate change policy.

This development only serves to sustain the extant American governance approach to climate change, which is largely a combination of state, regional, and local initiatives. Many of these have been put into operation during the past decade, as subfederal governments have proved unexpectedly active in developing a diverse set of climate-related policies (Selin and VanDeveer 2009). In many instances, these policies were developed with the expectation of an expanded future federal role. But they will in all likelihood constitute the core of American climate policy, at least for the near future, and possibly for a good deal longer, given the considerable partisan and institutional constraints at the federal level on moving comprehensive legislation that addresses topics such as climate change, energy, and the environment. Ironically, the biggest single step taken to reduce GHG emissions in the United States during the past two decades had nothing to do with climate policy, but rather with the "great recession" of 2008–2010. It is estimated that national GHG emissions decreased by as much as 8 percent between 2005 and 2010, consistent with the experience of other nations that have faced severe economic contraction. Declines have been particularly steep in states such as Michigan that have experienced the greatest economic disruption. This underscores the challenge of developing future climate mitigation policy that does not have to rely on widespread unemployment and economic inactivity.

This chapter surveys the intergovernmental landscape and the evolving national context. It begins with a brief review of policy proposals introduced in the 111th Congress, with particular attention to the intergovernmental dimensions of these initiatives. It examines the evolution of state and regional initiatives, demonstrating their broad scope and considerable overlap with many of the policies that were under consideration in the 111th Congress. This review is not intended to be encyclopedic, but rather to highlight the most salient policies and offer an early assessment of their implementation to date.

The chapter provides a unique perspective on public views on the roles of various levels of government in climate policy, drawing on the 2008 and 2009 versions of the National Survey of American Public Opinion on Climate Change.[1]

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1. In 2008, more than 2,000 Americans ages 18 and older were surveyed, including a national sample combined with four state oversamples. The resulting margin of error was ±2 percent at the 95 percent confidence interval. In 2009, 988 Americans were surveyed nationally, with a margin of error of ±3 percent at the 95 percent confidence level. Percentages from the survey results have been rounded up at the 0.5 percent mark, thus many totals do not equal

These surveys confirmed the findings of other analyses that there has been a steep decline in recent years in the percentage of Americans who believe that global temperatures are increasing and that human activity is the cause. The surveys focused in particular on policy, not only exploring public support for various policy options, but also asking respondents to weigh in on whether they see climate policy as the responsibility of one or more levels of government or as something no American government should adopt. In this regard, we rely most heavily on the 2009 survey, conducted during October and November, which expanded the previous exploration of this issue and found a significant body of public support for sustaining a multilevel approach to climate change, albeit with some variance between government levels and policy tools. We believe that this constitutes the first attempt to use survey analysis to examine multilevel climate governance options in the United States in such depth and focus on the key findings later in the chapter.

Lessons from the 111th Congress

Between 1975 and the end of 2009, at least 479 congressional hearings on climate change were held. The majority of them examined scientific considerations, but a growing number of them considered policy options. Remarkably, however, few of the policy-focused hearings even acknowledged the existence of state, regional, and local policies, much less attempted to distill lessons from them or consider ways to devise a long-term plan for American climate governance (Rabe 2010b). Consequently, the array of proposals introduced in the 111th Congress reflects a hodgepodge of approaches to possible federal government engagement in areas where substantial subfederal involvement is already evident. A number of the proposals that included some form of a carbon cap-and-trade strategy called for full preemption of existing state and regional policies. These featured little specific discussion of how early state implementation experience might be used to guide federal policy development or how states and regions might be rewarded for early actions or demonstrable emissions reductions related to their policy steps.

The American Clean Energy and Security Act introduced a compromise approach relatively late in the deliberations, putting all existing state and regional cap-and-trade programs into a five-year freeze. This meant that these subfederal programs would be halted from 2012 to 2017, assuming that the federal government had its own program operational by January 2012. The act kept open the possibility that these programs might begin to return to operation in January 2017. It was widely anticipated, however, that the Senate might move toward a total-preemption model, reflecting proposals from the 109th and 110th

100 percent. All surveys were conducted by the staff of the Muhlenberg College Institute of Public Opinion.

Congresses. Early hints of the contents of the proposed Senate bill emerging from months of deliberations led by Senators Lindsey Graham, John Kerry, and Joseph Lieberman further suggested that any cap-and-trade provision would likely be narrow in scope, but would eviscerate related state and regional programs through full preemption. Although Graham and other Senate Republicans backed away from active involvement, Kerry and Lieberman introduced a 987-page bill, the American Power Act, in May 2010. This bill proposed a wide range of strategies that might reduce GHG emissions, including a narrow cap-and-trade provision that would preempt existing subfederal programs but offer participating states some form of compensation. In turn, the legislation included a long list of assistance for a wide range of energy sources, including an expanded provision for offshore oil and gas drilling that would allow individual states to opt out in order to protect their coastal areas. The Kerry-Lieberman bill faced considerable opposition and was ultimately withdrawn from serious review.

Not only does the continuing federal experience suggest considerable difficulty in enacting any climate legislation, but it also shows the absence of any coherent model for engaging states, regions, and localities in a constructive partnership across government levels. Scholars have begun to turn to this issue in recent years, considering models for allocating policy responsibility across government, although much of this work is quite new and no singular view has emerged (Engel and Saleska 2005; Posner 2010; Rabe 2008; Selin and VanDeveer 2009).

Back to the States

While Congress has continued to fiddle, subfederal governments have continued to move forward with policy development and implementation. This movement has accelerated in recent years, albeit under a cloud resulting from the realization by states, regions, and localities that their policies may be altered, or even eliminated, by the federal government. This has only been exacerbated by the fact that subfederal governments are facing the worst fiscal crisis in half a century, complicating their ability to sustain programs through advanced stages of implementation. This section is not intended to provide a comprehensive overview of subfederal policy, but rather to focus on two climate policies that have been widely adopted by states and have received frequent consideration in Congress.

RENEWABLE ELECTRICITY MANDATES

One of the most popular state climate initiatives has involved mandating increases in the amount of electricity that must come from renewable sources. Twenty-nine states, representing about three-fifths of the American population and about half of the total electricity-generating capacity in the nation, have passed legislation to implement such policies, known as renewable portfolio standards (RPS). They have a wide base of political support, in large part because they are seen as economic development tools, given their anticipated potential to tap into "home-

based" energy sources. Indeed, GHG emissions reductions have rarely been a primary driver behind such legislation. RPS have been signed into law by a diverse array of governors over the past 15 years, including Republicans George W. Bush and Rick Perry (Texas) and George Pataki (New York) and Democrats Jennifer Granholm (Michigan), Janet Napolitano (Arizona), and Bill Richardson (New Mexico). Some form of RPS now exists in every region of the country, although such initiatives are most common on the West Coast and in the Southwest, Northeast, and Midwest.

Despite their broad popularity, no two states have identical RPS policies. This is reflected in the various ways in which states define concepts such as renewable electricity and the rate at which they require renewables to be increased. RPS have clearly contributed to significant increases in renewable electricity in a number of jurisdictions, most notably through substantial growth in wind energy capacity. The state regulatory mandates have coincided with a series of federal and subfederal tax credits to promote renewable energy, and these policies have generally maintained considerable political support across party lines. They have, however, faced some implementation challenges, particularly where the costs of expanding capacity have exceeded initial projections and where opposition has emerged to certain siting proposals. This opposition has been most notable for large wind projects and is perhaps best reflected in the 10-year odyssey in Massachusetts over the proposed creation of a large wind farm off Cape Cod known as Cape Wind. In turn, some states have triggered controversy by trying to maximize the likelihood that any new renewable energy developed through these mandates will be produced within state boundaries. This has raised issues of cost-competitiveness, given possible restrictions on the importation of electricity across state borders, as well as concerns about possible infringement of the commerce clause of the U.S. Constitution. Nonetheless, these policies have continued to proliferate, and additional states may well establish their own versions of this tool after the 111th Congress adjourned without establishing a federal RPS.

CARBON CAP AND TRADE

The American experience with emissions trading has become synonymous for many with Title IV of the 1990 Clean Air Act Amendments, which applied this tool to sulfur dioxide emissions from coal-burning electricity-generating plants. This federal program was based heavily on earlier state experimentation with sulfur dioxide emissions trading, as well as on a series of other trading experiments that included some state and regional involvement. The 111th Congress potentially provided a great opportunity to review the experience of the 23 states (in partnership with four Canadian provinces) that have launched carbon cap-and-trade regional programs in recent years. Instead, much of the congressional debate focused on the federal sulfur dioxide experiment and some early lessons from the Emissions Trading Scheme of the European Union, although its primary focus was on trying to cobble together a viable coalition among multiple claimants for special treatment (Rabe 2010a).

A careful federal review of state and regional experience would have generated important findings that could be translated into a federal program and been designed to sustain a multilevel component. Clearly the most advanced and successful of the three regional models to date is in the Northeast, where a partnership of 10 states forms the Regional Greenhouse Gas Initiative (RGGI). Over a three-year period, this regional entity brought together leading environmental and energy officials from the participating states to craft the key design elements of a trading program that would be applied to the electric utility sector. It built on earlier state-specific experimentation in Massachusetts and New Hampshire, initially freezing emissions levels and then beginning to phase them down over the next decade.

RGGI is particularly noteworthy in that it is the world's only carbon-trading zone where nearly all of its allowances are auctioned rather than allocated by regulatory bodies at no cost (Raymond 2010). This approach generates revenues for each of the participating states. The first five quarterly auctions generated more than $775 million in revenues. The states have used these funds primarily to cover some of the costs of their renewable energy and energy efficiency programs, although Maryland rebates some of the money to electricity ratepayers, and New Jersey has shifted some of the funds to reducing its budget deficit. RGGI has a nonprofit headquarters in New York City, which maintains close communication among the participating states. The coalition has remained intact, although initial hopes to lure additional states (such as Illinois, Pennsylvania, and Virginia) and Canadian provinces (such as Quebec and the Maritimes) have not materialized thus far. Major concerns include possible leakage, given the significant reliance on (and availability of) electricity imported from outside the RGGI zone, and the fit between cap and trade and the many other renewable energy and related programs (including RPS) that already exist in various states. In addition, the RGGI auction price declined in late 2009 and early 2010, most likely reflecting reduced demand for electricity during the recession and anticipation of possible federal preemption.

A more ambitious regional cap-and-trade program has been less successful in moving toward implementation. The Western Climate Initiative (WCI) involves a partnership of seven western states and four Canadian provinces. It emanated in large part from California's 2006 Global Warming Solutions Act, which set ambitious emissions reduction targets for each decade through 2050 and offered general guidelines for moving toward some form of cap-and-trade approach for carbon emissions that would cover a much wider range of sources than RGGI does (Raymond 2010). State policy makers were clearly eager not only to implement this program, but also to look to potential partners in the United States and possibly other nations, such as Canada and Mexico. As in the case of RGGI, the motivating force for the WCI was to create the largest regional zone that was politically feasible, in an effort to maximize both potential emissions reductions and compliance flexibility by moving operations beyond the boundaries of a single, albeit large, American state.

California has provided much of the leadership in the WCI and has struggled as it has moved into its fourth year of trying to operationalize a carbon-trading zone for the region. Its partners have less experience working closely together on environmental and energy issues than do the members of RGGI, and California's authorizing legislation was quite vague, leaving many of the details open to negotiation. In turn, the decision to expand the proposed cap beyond the electricity sector has added much complexity, and establishing a mechanism for allocating allowances has been highly contentious. Moreover, key policy development decisions have been required at the very time that California and other states have faced profound fiscal problems, causing even such fundamental issues as maintaining core staff to be called into question. For example, funding for much of the WCI's California staff and many of its climate policy commitments have relied heavily on borrowing from a state recycling fund that must be reimbursed. The WCI continues to have considerable promise, but has followed a much slower and more uncertain path than RGGI. This shows that no two carbon cap-and-trade experiences are identical and that important lessons on key design elements can be learned from existing programs. Indeed, the very future of the WCI was jeopardized by the withdrawal of Utah and Arizona from the cap-and-trade agreement, second thoughts in New Mexico, and a 2010 California ballot proposition that would have effectively halted that state's role in the program had it been approved. Canadian provincial commitment may be more resilient in this case.

The third regional carbon cap-and-trade entity is located substantially within the Great Lakes basin, bringing together six states and one province under the auspices of the Midwestern Greenhouse Gas Reduction Accord (MGGRA). A multijurisdictional memorandum of agreement was signed in 2007 to create the most recent of the three presumptive carbon-trading zones. Participating jurisdictions have explored options for a system that would possess many of the features of the WCI, including a broader cap and longer-term emissions reduction commitments. Some of their work was stalled in 2009 and early 2010, when it seemed highly plausible that Congress would take over this arena. But MGGRA working groups have continued to meet to define key provisions, and there is growing interest in learning from the RGGI allowance auction system. This reflects the desire to establish a carbon price both to begin to reduce emissions and to secure a steady source of revenue for a set of states that are under fiscal stress and looking for funds to support their ambitious renewable energy and energy efficiency ambitions. At the same time, mounting state fiscal crises and pending state government leadership changes placed the future of MGGRA in question in 2011.

Other clusters of states have undertaken policy development in many other areas. These include various forms of mandates for renewable or low-carbon transportation fuels, fees on electricity to deter consumption and cover state program costs, assessment of carbon emissions as part of state siting reviews of proposed electricity-generating and large manufacturing plants, and greater state oversight of local land use planning decisions given potential GHG ramifications

(Selin and VanDeveer 2009). These policies are then combined with an equally diverse array of policies that have been established by local governments, including municipalities, townships, and counties across the nation. This chapter is not designed to provide detailed analysis of each of these types of policies, but it does serve to underscore the fact that a bottom-up system of addressing climate change that relies on a range of state, regional, and local policies appears likely to be a significant force in the United States in the coming years, barring some major shift at the federal level.

Public Views on Climate Change

Substantial research has been conducted over the past decade regarding Americans' views on climate change. Much of this work has examined the extent to which Americans believe that global temperatures have been rising and that human activity may be a contributing factor. Other forms of analysis have asked Americans to rate the severity of climate change as a problem facing society, particularly in comparison with other policy issues. In recent years, more attention has been devoted to using survey analysis to assess public responses to various policy options that might reduce GHG emissions and thereby mitigate the threat of climate change to some degree (Myers and Nisbet 2007).

The vast majority of this analysis, however, has been conducted as if the United States had a unitary system of government. It has given minimal attention to state and regional variation, particularly on issues of policy development and the respective roles for federal, state, regional, and local governments. During the past three years, a special focus of the National Survey of American Public Opinion on Climate Change has been bringing a multilevel dimension to this body of data. The project reflects a partnership between the Muhlenberg College Institute of Public Opinion and the Center for Local, State, and Urban Policy at the Gerald R. Ford School of Public Policy at the University of Michigan. This section highlights key themes from intergovernmental parts of the survey of 988 participants, with particular attention to the fall 2009 findings, given expanded questions that probed different elements of this issue (Borick 2010).

Much of our analysis of public views on climate change tracks with established national surveys, such as those produced by the Pew Center, Associated Press–Stanford University, and Washington Post–ABC News. We found that the percentage of Americans who believe that there is "solid evidence that the average temperature on earth has been getting warmer over the past four decades" declined from 72 percent in October 2008 to 52 percent in April 2010. Similar degrees of variation occurred in related measures, including diminished confidence among those who continue to believe that the planet is warming and decreasing numbers of Americans who believe that climate change is a severe problem.

We also found that a key driver in public opinion on climate change appears to be related far less than anticipated to possible cues, such as reports from inter-

Table 15.1
Public Views on Localized Impacts of Global Warming (%)

Levels of agreement with the statement "My state has already felt negative effects from global warming."

	2008	2009
Strongly agree	28	16
Somewhat agree	27	30
Somewhat disagree	12	19
Strongly disagree	17	15
Not sure	16	19

Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

national science bodies, media accounts, and statements from prominent public officials. These factors are, of course, relevant, but we consistently found that citizens come to frame their own views on climate change based on local weather conditions they have experienced personally in very recent times (Borick 2010). Both those who believe in global warming and those who reject it regularly cite local temperatures, storms, and droughts as primary reasons for their views on climate change. Thus, the very recent pattern for more moderate temperatures in most parts of the United States in the past few years may be a significant factor in the lower percentage of people who believe the earth is getting warmer and suggest that public opinion in this area may shift with short-term weather trends.

At the same time, we have continued to explore whether Americans believe that global warming has had any negative effects on their state of residence. Between 2008 and 2009, we found a significant change in their responses to this more localized form of inquiry, as is reflected in table 15.1. These results demonstrate a 12 percent shift among those who strongly agree that their state has experienced negative effects. Given our other findings on how important recent personal observation and experience are in framing public views on this issue, the shift may be linked to lower levels of belief that the planet is warming.

Public Views on Federal, State, and Local Government Roles

The significant shift in some measures of belief in the existence or severity of climate change does not extend to reduced support for governmental assumption of responsibility for taking actions to reduce global warming. We did note some shifts between the 2008 and 2009 surveys in some areas where identical questions were asked, but generally we did not find the same level of movement as was evident for the kinds of questions in the previous section. The subsequent

discussion explores responses to a range of policy-oriented questions, many of which cut across levels of government.

These findings generally reflect public support of policy involvement by federal, state, and local authorities, rather than concentrating responsibility in a single level of government. There is relatively little survey analysis that examines public opinion across these levels, although we believe that our findings are broadly consistent with what is known in other policy realms or in the intergovernmental system more generally (Kincaid and Cole 2008). As noted in table 15.2, the 2009 survey found a shift toward greater support for federal government assumption of "a great deal of responsibility," increasing from 48 percent in 2008 to 55 percent in 2009. There was a slightly greater increase in support for taking responsibility at the local level (8 percent), with a somewhat smaller increase for more state control (3 percent). Only 10 percent of respondents said that federal and state governments had "no responsibility" in this area, reflecting declines of 5 and 7 percent, respectively, from 2008. These findings over a two-year period seem to suggest not only support for government involvement, but also a belief that these efforts not be confined to one level of government.

We also explored a related set of questions that considered policy relationships across levels of government. These kinds of questions, summarized in table 15.3, arise amid both federal consideration of policies that might influence states and evolving state policies that could influence (or be influenced by) policies in neighboring states. In general, we found considerable support in 2009 for allowing individual states to adopt standards on GHG emissions that are stricter than any established by the federal government. This appears to reflect opposition to any policy that would use federal preemption powers to eliminate state policies that are already in effect.

Table 15.2
Public Views on Roles of Multiple Levels of Government in Addressing Global Warming (%)

For each level of government that I mention please tell me if it has a great deal of responsibility, some responsibility, or no responsibility for taking actions to reduce global warming.

	A Great Deal of Responsibility	Some Responsibility	No Responsibility	Not Sure
Federal government	55 (48)	31 (33)	10 (15)	4 (5)
State governments	37 (34)	49 (46)	10 (17)	4 (4)
Local governments	34 (26)	47 (47)	14 (22)	6 (5)

Note: 2008 findings in parentheses.
Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

Table 15.3
Public Views on State and Federal Responsibilities (%)

Please identify your level of agreement with the following statements. For each statement please indicate if you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Not Sure
The federal government should allow state governments to adopt stricter standards for the emission of greenhouse gases than any federal standards.[a]	35	40	11	8	6
My state should not adopt anti–global warming policies unless its neighboring states also adopt similar policies.	11 (19)	21 (15)	27 (22)	33 (40)	8 (5)
If the federal government fails to address the issue of global warming, it is my state's responsibility to address the problem.	26 (41)	40 (29)	16 (9)	11 (17)	7 (5)
State governments will boost their economies by requiring greater use of renewable energy.	27 (47)	43 (30)	12 (6)	8 (8)	10 (9)
My state's economy will be damaged if it requires greater use of renewable energy while neighboring states don't have such requirements.	16 (13)	25 (24)	25 (20)	16 (31)	18 (13)

[a]Question not asked in 2008 survey.
Note: 2008 findings in parentheses.
Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

There was also continuing support in 2009 for unilateral state efforts in the absence of comparable actions by neighboring states or the federal government, although there were some shifts in the intensity with which those views were held. Moreover, most Americans continued to believe that their state economies will be bolstered by an expanded use of renewable energy sources, although there was a 20 percent decline in the number of Americans who strongly agreed with this proposition. Americans also have become more divided in their views on the economic effects of renewable energy requirements in states where neighboring states lack similar requirements. This may be linked in part to the economic recession that was such a dominant concern throughout 2009 and challenges that some states faced in expanding renewable energy capacity in a timely and cost-effective manner.

Public Opinion on Climate Policy Options at the Federal and State Government Levels

There are a nearly infinite number of policies that could serve to reduce GHG emissions. Many of these have been under extended review by Congress and, as noted above, put into effect by a significant number of state and local governments. These policies cut across sectors that generate GHGs, including electricity generation, transportation, industry, and agriculture. We examined public support for a number of the most prominent climate policy options (see table 15.4). This went beyond most surveys, which usually ask only about the policy in general or presumed exclusive involvement by the federal government. Instead, this survey included options that enabled respondents to determine whether they opposed policy adoption at any government level, supported either federal or state adoption, or supported both federal and state adoption.

This exact question was not asked in 2008, but we found a generally consistent pattern from prior surveys in that regulatory tools that mandate increased levels of renewable energy, increase vehicle fuel efficiency, or support increases in the use of nuclear energy have the greatest overall support for adoption at one or both levels. Each policy option, with the exception of increased gasoline taxes, had more support overall at one or both levels than opposition to adoption at any level. Only on the issue of establishing fuel efficiency standards for automobiles did we find a clear preference for action by a specific level of government, with respondents much more likely to prefer the federal government over state governments in this area. We explore the cap-and-trade and carbon tax options in greater detail in the following section, given the salience of these options and an attempt to discern whether support for a particular option shifts depending on its anticipated cost to citizens.

These findings are significant for many reasons, and from an intergovernmental perspective, they indicate public support for policies that are not the exclusive province of the federal government. Even in the case of vehicle fuel efficiency, only 23 percent of respondents favored the option to place exclusive power in federal hands. Support for a federal-only approach to the other policy options was between 8 and 12 percent. Support was generally a bit higher for a federal-only approach than for a state-only approach, but it was well below support for shared responsibility. We did not include local governments in this sample, due to the challenge of creating too complex a set of questions and given the lack of legal authority for many local governments to consider some of these options.

Considerable debate in the 111th Congress, which adjourned in December 2010, focused on establishing a price on carbon to deter energy consumption and thereby reduce GHG emissions. This has been reflected in the ongoing debate over a cap-and-trade system, particularly one that might auction allowances and thereby send a direct price signal related to carbon. This would parallel the experience in RGGI and the evolving state use of this tool. At the same time, there have been a number of congressional proposals to levy some form of carbon tax

Table 15.4
Public Support for Alternative Climate Policy Options Across Government Levels (%)

Next I'm going to provide you with a list of policies that can be used to limit the emission of greenhouse gases. For each option that I mention, please tell me if the policy should be adopted only by the federal government, only by your state government, by both the federal and state governments, or should not be adopted by any government.

	Federal	State	Both	Neither	Not Sure
Allow businesses to buy and sell permits to release greenhouse gases if it results in an overall decrease in emissions.	11	7	41	22	18
Increase taxes on all fossil fuels to reduce consumption and greenhouse gas emissions.	10	6	31	42	11
Increase use of nuclear power to reduce greenhouse gas emissions.	12	6	52	17	12
Increase taxes on gasoline to reduce consumption and greenhouse gas emissions.	8	8	25	49	10
Require a set portion of electricity to come from renewable energy sources such as wind and solar power in order to reduce greenhouse gas emissions.	9	9	56	16	9
Require automakers to increase the fuel efficiency of their vehicles to reduce greenhouse gas emissions even if it increases the cost of the vehicle.	23	5	44	19	9
Require a set portion of transportation fuels to come from renewable energy sources such as ethanol.	10	8	52	17	12

Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

on fossil fuels such as coal, gasoline, and natural gas. This policy is in place in many nations and subnational units outside the United States, such as British Columbia. In turn, the federal government and all American states have some form of this policy in place through gasoline excise taxes. A growing number of states also have experimented with various fees and charges on electric bills that take the form of a modest carbon tax. This approach has gained increasing attention

Table 15.5
Public Support for Cap and Trade and Carbon Tax Options Under Alternative Pricing Scenarios (%)

There is a proposed system called cap and trade where the government would issue permits limiting the amount of greenhouse gases companies can put out. Companies that did not use all their permits could sell them to other companies. The idea is that many companies would find ways to put out less greenhouse gases because that would be cheaper than buying permits. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	17
Somewhat support	36
Somewhat oppose	14
Strongly oppose	20
Not sure	12

What if the cap and trade program significantly lowered greenhouse gases but increased your monthly energy costs by $15 a month? Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	14
Somewhat support	28
Somewhat oppose	22
Strongly oppose	29
Not sure	8

What if the cap and trade program significantly lowered greenhouse gases but increased your energy costs by $50 a month? Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	7
Somewhat support	15
Somewhat oppose	18
Strongly oppose	54
Not sure	6

Another way to lower greenhouse gas emissions would be to increase taxes on carbon-based fuels such as coal, oil, gasoline, and natural gas. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	11
Somewhat support	25
Somewhat oppose	20
Strongly oppose	35
Not sure	9

Table 15.5
(continued)

What if the carbon fuels taxes significantly lowered greenhouse gases but increased your energy costs by $15 a month? Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	14
Somewhat support	30
Somewhat oppose	20
Strongly oppose	30
Not sure	6

What if the carbon fuels taxes significantly lowered greenhouse gases but increased your energy costs by $50 a month? Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this type of system?

Strongly support	7
Somewhat support	13
Somewhat oppose	19
Strongly oppose	56
Not sure	5

Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

as a way not only to reduce GHG emissions, but also to provide financial support for all levels of government during this time of fiscal stress. Consequently, the 2009 version of the survey was expanded in this regard, as is reflected in table 15.5.

Consistent with other analyses, we found that initial support for cap and trade exceeded that for a carbon tax. Indeed, a slight majority of respondents were either strongly or somewhat supportive of cap and trade (53 percent), whereas only a minority (36 percent) had similar views about a carbon tax. However, these differences largely disappeared when similar projected costs were attached to the proposed policies. We used increases in energy costs of $15 and $50 per month attached to each policy proposal, with the $15 increase a rough proxy of what some prominent analysts estimated would be the added costs imposed through enactment of the cap-and-trade bill approved by the House of Representatives in June 2009 (but later withdrawn).

In neither case were respondents given any indication as to how revenues from these policies might be used by governments. We believe that this question

is an important one for future research, as is reflected in the current debate over possible options that might return revenues to citizens via commensurate tax reductions, or so-called dividend checks, as opposed to being used for other purposes, such as deficit reduction or subsidizing alternative energy development. The saliency of this issue is further heightened by the growing fiscal problems of governments across all levels of the American system, as they explore an array of options to either generate more revenue or create a more reliable long-term fiscal system. The intent in the 2009 survey was to attempt to place these policy options on a parallel track, and we noted a striking convergence of public opinion when a comparable cost estimate was added for both options.

Finally, the 2009 survey indicated a significant decline in willingness to pay for increased production of renewable energy (see table 15.6). The percentage of Americans unwilling to pay anything for more renewable energy increased from 22 percent in 2008 to 33 percent in 2009. Among those willing to pay some amount of money to get more renewable energy, there was a notable decline in the percentage of those willing to pay $250 or more per year for this cause. In 2008, 17 percent of Americans said they would be willing to pay at least $250 each year to increase renewable energy production, but in 2009 only 5 percent held this position. While many factors may have contributed to this outcome, the struggling national economy was a likely determinant of the lower level of support. This issue will become significant as governments weigh not only broad policy options, but also possible costs that might be attached to individual policies. It may also be influential in guiding discussions of policies such as cap and trade and carbon taxes that might impose costs, but also generate government revenues that could be put to different uses.

Table 15.6
Willingness to Pay for Renewable Energy (%)

If it required you to pay extra money each year in order for more renewable energy to be produced, how much would you be willing to pay? Would you be willing to pay:

	2008	2009
Nothing additional each year	22	33
$1–49 a year	16	31
$50–99 a year	17	13
$100–249 a year	13	11
$250–499 a year	10	3
$500 or more a year	7	2
Not sure	15	6

Source: 2008 and 2009 National Survey of American Public Opinion on Climate Change.

Conclusions

Climate change was largely framed in earlier decades by scholars and the media as a challenge of global governance and negotiation among national powers. This has only recently yielded to the recognition in the United States that states and localities have been far more active than anticipated, whereas the federal government and global regimes have been less active. This same phenomenon is evident in other federated or multilevel systems and has triggered much new innovation in climate policy research.

In the United States, even the seemingly propitious conditions for expanding the federal role after the 2008 elections have shifted. It is possible that there will still be some major expansion in the federal role in the coming years, whether through executive branch action, new legislation, or even new engagement by the federal courts. But as the 20th anniversary of the Rio Declaration on Environment and Development nears, American government involvement on climate change retains a distinctly subfederal flavor. This chapter focuses in particular on state and regional developments, but these are blended with a growing array of local government initiatives to provide an increasingly multilevel context for addressing climate change.

Public opinion analysis indicates generally broad support for sustaining such an approach, although public attitudes on the existence of climate change and any human contribution to global warming shifted significantly between 2008 and 2009. In turn, public views vary widely on different policy options that might be attempted across government levels, with support generally lower for the kinds of strategies that would produce the most cost-effective reductions in emissions. Looking ahead, issues of public engagement and the framing of various policy alternatives stand as major challenges.

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