CHAPTER 1

The Politics of Climate Change, State Style

George W. Bush and Christine Todd Whitman may well have signed into law policies that will achieve greater levels of greenhouse gas reduction than those approved by any other elected officials in the United States during the past decade. These policies are in no way associated, however, with the federal offices they assumed in 2001. Instead, their environmental reputations reflect major policies that were approved during their governorships in Texas and New Jersey, respectively, and are currently being implemented by their successors there.

For Bush, this entailed signing the Texas Public Utility Regulatory Act of 1999. This bill included an ambitious program that required Texas utilities to increase their reliance over the next decade on renewable energy sources that do not generate greenhouse gases. It outlined a detailed plan to increase steadily the level of renewable energy used in the state and established penalties for noncompliance. As a result, Texas has experienced a "wind rush" and is expected to generate between 3 and 4 percent of its electricity from renewable wind power by 2010, up from a rate below 1 percent when the legislation was signed. Given the enormous scope of the Texas economy and its heavy reliance on electricity, it is estimated that this legislation will reduce Texas carbon dioxide emissions by 1.83 million metric tons a year by 2009. These reductions may be greater than the entire carbon dioxide (CO_2) emissions generated by either Vermont or the District of Columbia in that year (see table 1-1).

Table 1-1. *Greenhouse Gas Emissions of the United States, by State, 1999*
Million metric tons of carbon equivalent

Rank/state	Emissions	Emissions per million people	Rank/state	Emissions	Emissions per million people
1 Texas	166.56	7.64	27 South Carolina	20.93	5.09
2 California	94.83	2.70	28 Iowa	20.65	2.07
3 Ohio	69.75	6.12	29 Kansas	19.43	7.19
4 Pennsylvania	64.05	5.21	30 Massachusetts	17.16	2.68
5 Florida	60.83	3.62	31 Arkansas	17.09	6.30
6 Indiana	59.85	9.73	32 Mississippi	17.05	5.94
7 Illinois	58.58	4.67	33 Wyoming	16.79	33.91
8 Michigan	52.69	5.25	34 Utah	16.60	7.20
9 New York	52.31	2.75	35 New Mexico	15.10	8.21
10 Louisiana	51.16	11.46	36 North Dakota	13.82	22.02
11 Georgia	43.11	5.02	37 Oregon	11.24	3.19
12 North Carolina	37.19	4.47	38 Nebraska	11.11	6.48
13 Kentucky	36.43	8.91	39 Alaska	11.03	17.16
14 Alabama	35.90	8.01	40 Nevada	10.91	4.94
15 Missouri	35.17	6.21	41 Connecticut	10.09	2.93
16 Tennessee	32.36	5.59	42 Montana	8.37	9.23
17 New Jersey	32.10	3.75	43 Maine	4.86	3.74
18 West Virginia	30.65	17.06	44 New Hampshire	4.55	3.55
19 Virginia	29.62	4.06	45 Delaware	4.30	5.32
20 Wisconsin	27.97	5.14	46 Hawaii	4.25	3.43
21 Oklahoma	25.04	7.20	47 Idaho	4.11	3.05
22 Minnesota	25.02	4.98	48 South Dakota	3.63	4.79
23 Washington	23.11	3.80	49 Rhode Island	3.08	2.88
24 Arizona	21.47	3.91	50 Vermont	1.77	2.87
25 Colorado	21.32	4.70	51 District of Columbia	1.13	1.98
26 Maryland	21.16	3.80			

Source: National Environmental Trust, *First in Emissions, Behind in Solutions* (Washington: National Environmental Trust, 2002); U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2000* (2002); "Energy CO_2 Inventories" (yosemite.epa.gov/OAR/globalwarming.nsf/content/EmissionsInternationalInventory.html [July 24, 2002]) and "International Emissions" (yosemite.epa.gov/OAR/globalwarming.nsf/content/Emissions.html [July 24, 2002]) from the U.S. Environmental Protection Agency's website link to Global Warming.

Bush may have referred to this legislation on the presidential campaign trail—most likely during a speech in Saginaw, Michigan, in September 2000 that featured a widely noted commitment to take steps to reduce greenhouse gases, if elected. What went less noted was a tweak at his main opponent, incumbent vice president Al Gore, for backing away during the campaign from his earlier, more aggressive proposals and instead emphasizing a more modest mixture of tax credits and voluntary reduction programs to reduce greenhouse gases. Bush contended that Texas

had found a better method to reduce greenhouse gas emissions. He promised to build on that experience if elected president.

Whitman's involvement included active support through a series of administrative orders and endorsement of legislation involving an across-the-board commitment by the state of New Jersey to reduce its greenhouse gas emissions to 3.5 percent below 1990 levels by 2005. This went well beyond the reduction levels pledged by President George H. W. Bush in the 1992 United Nations Framework Convention on Climate Change that has essentially gone ignored by the United States and most other national signatories. In fact, New Jersey's actions signaled a willingness to reach beyond the 1992 agreements and put the state in line to attain the levels of reduction pledged by the United States in the 1997 Kyoto Protocol—7 percent below 1990 levels by 2012. The state took this action even though Kyoto stood no chance of Senate ratification during the Clinton-Gore administration and was never submitted for Senate consideration.

New Jersey is on track to reach these reduction targets, which have continued to be supported by Whitman's Democratic successor, James McGreevey. The New Jersey strategy has emphasized a series of programs that involve virtually every sector with some impact on greenhouse gas releases, mixing a series of coercive and voluntary regulatory tools. "New Jersey has set an ambitious goal to not only curb greenhouse gas emissions, but to reduce them," explained Whitman in endorsing the reduction pledge. "The fact is that climate change associated with greenhouse gases has an effect on every aspect of our daily lives. The environmental and economic benefits that stem from controlling greenhouse gases are enormous."[1]

The move from the statehouse to the White House led to far more cautious approaches to greenhouse gases by former governors Bush and Whitman. In many respects, the federal government's role in climate change remains as unclear today as it was in the late 1980s, when a convergence of research findings and steamy summers thrust climate change onto the national political agenda. Ironically, this inconclusive soap opera on the Washington stage has served to obscure an increasingly dynamic and active process of developing policies to reduce carbon dioxide, methane, and other greenhouse gases. Dozens of state laws have been enacted—many since 1998—that establish specific state-based strategies with the explicit intent of reducing greenhouse gases. These involve formal commitments in virtually every sector that generates such gases. When combined, they constitute an almost stealth-like approach to global climate

change, in that they have received remarkably little attention from scholars, journalists, or environmentalists.

These state programs, of course, lack the political sex appeal of an international trading regime for greenhouse gases. Collectively, they only begin to make a dent in the levels of reduction that may be warranted in coming decades. Moreover, they do not involve all states, some states being either indifferent or hostile toward such policies. Nonetheless, while climate change policy appears hopelessly deadlocked in Washington, a set of state governments that cuts across partisan and regional lines is demonstrating that it is possible to make some significant inroads on this issue, often through creative initiatives tailored to particular state circumstances and opportunities.

Collectively, these policies indicate alternative ways to address global climate change that may be particularly relevant for a nation as physically large and economically diverse as the United States. Indeed, many American states release a higher amount of greenhouse gases each year than many nations that are either Kyoto signatories or prominent candidates for future involvement. Texas, for example, exceeds the United Kingdom and France in annual emissions, just as Ohio exceeds Taiwan, Illinois exceeds Thailand, Georgia exceeds Argentina, New Jersey exceeds Egypt, Wisconsin exceeds Pakistan (see table 1-2), Colorado exceeds Iraq, and Massachusetts exceeds Norway. In fact, if each of the fifty states were to secede from the union and secure national sovereignty, many would rank among the world's leading national sources of greenhouse gases. In turn, states can address greenhouse gas emissions directly or through the many key policy areas they dominate—from electricity regulation to land use—that are profoundly relevant to any long-term effort to reduce greenhouse gases. They have turned increasingly to these powers in recent years, often expanding them in creative ways, in the process of redefining American climate change policy.

The evolution of climate change policy over the past decade from Washington to the states has a number of roots, not the least of which is the enormous policy gap created by federal action—and inaction. In their efforts to bridge this gap, some states have characterized the possibility of early action on climate change as an environmental necessity that could offer economic advantages, others as an economic development opportunity that warrants exploration, and still others as an economic threat to be avoided at all costs. This, in turn, affects the ways in which states choose to label their emerging policies. Obviously, virtually every policy

Table 1-2. *Greenhouse Gas Emissions of the American States and Other National Emissions Leaders, 1999*[a]

Million metric tons of carbon equivalent

Rank/nation or state	*Emissions*	*Rank/nation or state*	*Emissions*
1 United States	1,526.1	29 *Indiana*	59.9
2 China	792.1	30 *Illinois*	58.6
3 Russian Federation	444.1	31 Netherlands	53.1
4 Japan	301.3	32 *Michigan*	52.7
5 India	240.0	33 *New York*	52.3
6 Germany	230.7	34 *Louisiana*	51.1
7 *Texas*	166.6	35 Thailand	45.0
8 United Kingdom	153.6	36 *Georgia*	43.1
9 Canada	153.3	37 Romania	37.4
10 France	126.2	38 *North Carolina*	37.2
11 Italy	122.8	39 *Kentucky*	36.4
12 South Africa	104.8	40 Argentina	36.4
13 South Korea	104.8	41 Venezuela	36.2
14 Mexico	104.1	42 *Alabama*	35.9
15 Ukraine	102.9	43 *Missouri*	35.2
16 Australia	96.0	44 Belgium	33.2
17 *California*	94.8	45 Czech Republic	33.2
18 Brazil	91.8	46 *Tennessee*	32.3
19 Poland	91.3	47 *New Jersey*	32.1
20 Spain	83.8	48 United Arab Emirates	32.0
21 Iran	79.7	49 Egypt	31.7
22 *Ohio*	69.8	50 *West Virginia*	30.7
23 Taiwan	67.4	51 Singapore	30.4
24 Turkey	66.8	52 *Virginia*	29.6
25 Indonesia	66.5	53 Kazakhstan	28.9
26 North Korea	66.6	54 Greece	28.2
27 *Pennsylvania*	64.1	55 *Wisconsin*	28.0
28 *Florida*	60.8	56 Pakistan	27.9

Source: See table 1-1.

a. Individual states of the United States are in italics.

enacted by any government, from closures of military bases to construction of schools, could have some impact on greenhouse gases. Rather than examine such "accidental" policies, this book focuses on two other types of policies. One set includes those policies that expressly attempt to reduce carbon dioxide or other greenhouse gases, such as laws in New Hampshire and Massachusetts that regulate carbon dioxide emissions from electrical utilities as part of a "multipollutant" strategy. Another set includes those policies that are not explicitly labeled as efforts to reduce greenhouse gases but whose proponents are clearly aware of the likely impact and committed to monitoring any reductions. These types of poli-

cies include the Texas "renewables portfolio standard" signed into law by Governor Bush and Georgia's crosscutting effort to reduce motor vehicle use in the Atlanta metropolitan area.

The capacity of policy entrepreneurs to advance ideas for greenhouse gas reduction, working within different political and economic contexts, influences what they can and cannot attempt to do. Such entrepreneurs in these cases are most commonly found in the upper tiers of state agencies with jurisdiction over energy, environmental protection, transportation, agriculture, forestry, and natural resources. They work within existing political and resource constraints but nurture ideas and coalitions that lead to broadly supported greenhouse gas reduction policies tailored to the particular features of their state. In particular, successful entrepreneurs prove highly effective at linking greenhouse gas reduction initiatives with long-term economic development opportunities for a state. In many instances, they propose new policies on the basis of previous experience in related areas, such as emissions trading or energy efficiency, and have established themselves as highly credible experts in designing new policies.

The range of recent state experience is explored in an examination of a dozen states in later chapters of this book. These states were selected to maximize partisan, economic, social, and regional diversity. They demonstrate a wide range of possible policy responses, from strong commitment to intense opposition. As a result, they offer a representative blend of recent American state experience rather than an exclusive sampler of best practices and success stories.

The Rocky Road from Rio: Climate Change Science and Politics

At first glance, global climate change would appear to be the quintessential policy problem requiring a top-down strategy imposed by an international regime and implemented through binding agreements with national governments. Greenhouse gases are generated by all of the world's nations, although developed nations such as the United States have been dominant sources. Any long-term strategy to stabilize or reduce greenhouse gas levels will require widespread engagement, including the involvement of developing nations such as China and India that are increasingly large contributors to the problem (see table 1-2). Unlike other environmental problems that can literally be exported from one jurisdiction to another, such as industrial wastes and conventional air pollutants,

any release—or reduction—of greenhouse gases from any source has global ramifications.

Global climate change thus constitutes a unique type of environmental problem and challenge to collective action. Whereas most environmental policy constitutes a response to pollutants or substances widely perceived as bad for the environment and for human health, greenhouse gases are truly a mixed bag. Some of these gases, such as carbon dioxide, trap heat in the atmosphere and have fostered temperature levels in recent centuries conducive to staggering rates of agricultural and economic productivity as well as population growth. Many of these gases are familiar to the most basic science student, largely "natural" in origin, as opposed to such conventional "contaminants" as hazardous wastes and toxic air pollutants. Hence they are hard to vilify, especially in the absence of exact cause-and-effect evidence of their impact. Moreover, greenhouse gas releases have been a fairly reliable proxy for overall rates of economic development; the very concept of a "decarbonized" society may be equally disconcerting to developed nations that generate substantial emissions and developing nations eager to expand their economies through increased reliance on fossil fuel.

At the same time, however, greenhouse gas levels have grown at a steady—and alarming—rate in the industrial era. Over the past two centuries, atmospheric levels of carbon dioxide have increased by at least 30 percent, methane levels have more than doubled, and nitrous oxide levels have climbed by 15 to 20 percent.[2] This rate of increase has been particularly dramatic in recent decades, owing to population growth and continuing changes in economic development and transportation. In the event that no policies are implemented to curb current rates of carbon dioxide release, its concentration by 2100 is projected to be at least 50 percent higher than 1995 levels.

The increase in greenhouse gases has corresponded in recent decades with a series of alarming developments concerning climate. Overall, global surface temperature increased by approximately 1 degree Fahrenheit (about 0.6 degrees Celsius) during the twentieth century. The year 2002 was the second-hottest year worldwide since the advent of modern record-keeping in 1880, and nine of the ten highest annual temperatures during this era have been registered since 1990. The National Research Council, drawing heavily on a series of studies published by the Intergovernmental Panel on Climate Change, estimates that projected growth in greenhouse gas levels will produce a global surface temperature rise between

2.5 and 10.4 degrees Fahrenheit (1.4 and 5.8 degrees Celsius) by the end of the current century.[3] In turn, global sea levels rose from ten to twenty-five centimeters over the past hundred years and are projected to further increase by as much as fifty centimeters during the current century.[4]

In North America, warming Pacific Ocean temperatures are contributing to significant declines in fish, mammals, birds, and seaweed from California to Alaska. A number of states with large coastal areas or large surfaces at or below sea level have experienced a range of unusually intensive weather episodes in recent years, particularly southeastern states such as Louisiana and Florida. The likely impact of future changes varies enormously by region, and estimates remain inexact, but no portion of the United States is expected to remain unaffected. Even a chilly state such as Minnesota, often the brunt of economists' jokes anticipating an upswing for the state in tourist visits and retirement relocations as a result of rising temperatures, may face serious challenges.[5] State and national studies project that by 2050 the state will see a tripling of heat-related deaths and that by 2100 it may be contending with a significant dieback of boreal forests, major shifts in soil receptivity to agricultural bounty, possible temperature increases of between 2 and 7 degrees Fahrenheit, the introduction of new diseases, and substantial loss of fish and species habitats.[6]

All of these linkages and projections, of course, remain enormously inexact. Slight adjustments in exceedingly complex climate models can render dramatically different results. Nonetheless, more than a decade and a half ago, the issue of global climate change moved onto the agenda of the federal government and, in less publicized ways, the agendas of many state governments as well. In fact, various periods of federal action—and inertia—on climate change since the late 1980s have had the direct effect of intensifying state action.

The first serious federal steps to address greenhouse gases involved a series of actions approved during a period of intense partisan conflict between a Democratic Congress and a Republican president, George H. W. Bush. These initiatives did not reflect a comprehensive strategy and tended to eschew language such as "greenhouse gases" and "carbon dioxide." But they were at least partly influenced by growing concern over global climate change and provided the first federal infrastructure for subsequent action. They are also particularly noteworthy in that virtually no subsequent legislation of consequence emerged from either the eight years of the Clinton administration or the first three years of the George W. Bush

administration, leaving a decade-long gap in federal action that states have clearly begun to fill.

First, the 1992 Energy Policy Act set broad rules for restructuring the delivery of electricity and attempting to reduce American dependence on foreign oil. Perhaps its most important impact has been to give states new latitude in redesigning long-entrenched electricity markets and considering alternatives to fossil fuels. The legislation promoted alternatives through the creation of tax incentives, most notably a tax credit of $0.017 a kilowatt-hour to generators of new sources of renewable electricity from wind, solar, geothermal, and related sources. It also required utilities to report their carbon dioxide emissions to the federal government and established the first voluntary registry whereby greenhouse gas reductions could be reported and given potential credit in any future regulatory regime. These features served as precursors for expanded actions taken by states in more recent years, many of which are examined in subsequent chapters.

Second, the Clean Air Act Amendments of 1990 introduced many states to the practice of emissions trading, through a novel and successful approach to reducing sulfur dioxide emissions that was influential in the formation of the Kyoto Protocol.[7] That experience has prompted states to apply this concept to carbon dioxide (CO_2) and other greenhouse gases as they rethink regulatory approaches to electric utilities and other major industries. Indeed, in interviews conducted as part of the research for this book, this legislation was repeatedly depicted as a successful model that has influenced policymakers' thinking about the development of greenhouse gas reduction policy.

Third, the Intermodal Surface Transportation Efficiency Act of 1991 offered states new funding for mass transit but also encouraged them to pursue long-term planning to devise effective transportation options that would reduce pollution and energy consumption.[8] This program was intended to prod states to move beyond traditional efforts to maximize new highway construction and consider a range of transportation options. Fourth, the Bush administration created a State and Local Climate Change Program in 1990, which provided a series of grants and technical assistance to aid states in developing the capacity to examine and address climate change. Program grants provided many states with an initial forum for gathering essential data and beginning a process of policy development that made particular sense for individual states.

Then came Rio. Growing international concern about global climate change led to negotiations for a United Nations Framework Convention

on Climate Change. Scheduling of the Earth Summit in Rio de Janeiro in June 1992 provided a deadline for negotiations on climate change and a host of other international environmental issues. American support for the Framework Convention was withheld until the Bush administration's demands for some added flexibility had been met, but the president ultimately pledged American support for the convention. In fact, the United States became one of the first nations to ratify the Framework Convention, which was ratified by 167 nations and the European Community within five years.

Like many international pronouncements, the Framework Convention reflected a series of compromises between nations and regions with perspectives that were often wildly divergent. As the energy policy analyst Michael Grubb and his colleagues have noted, "The gulf between negotiators was enormous."[9] Nonetheless, the emerging framework was more than a mere set of platitudes. It provided strong international affirmation, including the voice of the United States, that global climate change is a serious problem whose solution will ultimately require far-reaching cooperation. More important, it established a plan to stabilize greenhouse gases at 1990 levels by 2000. This reflected, according to article 2, "the ultimate objective of this Convention," which was the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[10] For many nations, including the United States, such stabilization would require significant policy interventions, given anticipated emissions growth during the coming decade. The convention established a mechanism for annual reporting of greenhouse gas emissions by participating nations to help determine compliance with stabilization goals. It also outlined a process for taking additional steps that would add greater specificity to this overall effort and lead to subsequent rounds of policy that were expected to achieve greater levels of reduction.

These modest achievements seemed to set the stage for a major intensification of federal efforts concerning climate change after the 1992 presidential election. George H. W. Bush had campaigned four years earlier as someone who, if elected, would apply the "White House effect" to the "greenhouse effect." As president, he did manage to set in place some basic policy infrastructure. During the 1992 presidential campaign, however, Democrats Bill Clinton and Al Gore skewered many components of the Bush environmental record, including the president's alleged timidity on global climate change. They pledged to abide by the Framework Con-

vention and maintain 2000 emissions at 1990 levels. They also indicated that they would go much further, if elected, and bring new, creative approaches to this problem. Gore assumed a particularly prominent role in these discussions, reflecting his long-standing concern about global climate change and the relatively recent publication of his best-selling book, *Earth in the Balance*. Gore was particularly harsh in his book on those who would adopt incremental strategies to threatening issues such as global climate change: "Modest shifts in policy, marginal adjustments in ongoing programs, moderate improvements in laws and regulations, rhetoric offered in lieu of genuine change—these are all forms of appeasement, designed to satisfy the public's desire to believe that sacrifice, struggle, and a wrenching transformation of society will not be necessary."[11]

Through eight years in office, however, the Clinton-Gore administration experienced considerable difficulty in achieving even "modest shifts in policy" related to reduction of greenhouse gases. It presided over an economic—and greenhouse gas emission—expansion that made a mockery of Framework Convention goals. Between 1990 and 2000, the United States added more than 30 million people and 25 million motor vehicles, tantamount, in terms of energy use, to annexing another state of California. Despite energy efficiency gains in certain sectors, Americans in 2000 used approximately 10 percent more energy per capita than they had in 1980.[12] By 2000, American greenhouse gas emissions had not been stabilized at 1990 levels but had actually increased by nearly 15 percent during the decade. This made the reductions pledged by the American delegation at the Kyoto negotiations—7 percent below 1990 levels by 2012—even more daunting.

The first glimmer of the difficulties the new administration would experience in reducing greenhouse gases occurred during its first year, 1993. Despite strong Democratic majorities in both houses of Congress, Clinton's fiscal reform proposal passed narrowly and survived only after the administration agreed to strip Gore's pet proposal for a tax on the use of fossil fuels. This proposal was never expressly characterized as a greenhouse gas reduction strategy but was clearly intended to begin a process of reducing fossil fuel use—alongside its primary goal of generating additional revenue to help trim federal budget deficits. The political response to this proposal was intense and cut across party lines, leading Clinton to abandon it in attempting to salvage his fiscal program. Clearly, the Clinton administration would have to try something else to achieve greenhouse gas reduction, although its remaining time with the Ninety-third Con-

gress through January 1995 was dominated by the failed effort to develop a comprehensive medical care policy.

After the election of a Republican Congress in November 1994 and a protracted period of interbranch warfare, climate change policy moved even further to the recesses. Each year, the administration advanced some package of incentives to develop clean energy technologies and voluntary programs to attempt to reduce greenhouse gases, along with proposals to increase funding for climate change research. Perhaps the most prominent of these was the Partnership for a New Generation of Vehicles, whereby the administration proposed a far-reaching alliance with the domestic motor vehicle industry to bring a revolutionary set of low-emission vehicles into the marketplace. The program called on each of the Big Three auto manufacturers to develop family-friendly vehicles capable of driving eighty miles on a gallon of gasoline, with "production prototypes" due by 2004. A number of these types of proposals expanded on existing efforts launched in the prior administration, often recommending significant funding increases. Many Clinton proposals met a hostile reception in Congress. Some were approved only after they were amended with a series of formal constraints—including legislative riders named after their chief sponsor, Representative Joseph Knollenberg (R-Mich.)—on federal expenditures or regulations that might be used to attempt to reduce greenhouse gases in accordance with the Kyoto Protocol. In its final years, the Clinton administration's proposals became somewhat bolder, in some instances calling for national adoption of policies that were being developed at the state level, including required levels of energy from renewable sources. These never received a serious hearing, however, and were never aggressively promoted by the president or vice president. Ironically, President Clinton's boldest statement on climate change, a vigorous Internet address in which he endorsed several new proposals, including a "multipollutant" program that included caps on carbon dioxide, took place four days after the November 2000 election.[13]

Of course, the biggest story related to climate change during the Clinton-Gore administration was its engagement in international diplomacy, leading to the signing of the Kyoto Protocol in December 1997. In 1995 the administration had signaled its commitment to an agreement that would move well beyond the Framework Convention when it endorsed the so-called Berlin Mandates that called for development of binding emission reduction targets, exempted developing nations from formal engagement in the process, and set up further rounds of negotiation. The Berlin

Mandates triggered strong concerns in Congress, so much so that the Senate passed a 95-0 resolution in July 1997, called Byrd-Hagel after its chief sponsors, West Virginia Democrat Robert Byrd and Nebraska Republican Charles Hagel. This resolution made clear that the Senate would not ratify any future climate change agreement without commitments from developing countries.

The administration was clearly divided as the Kyoto negotiations approached. Support for active engagement came from the leadership of the Environmental Protection Agency and the Department of State but was tempered by serious reservations from the Departments of Energy, Treasury, Defense, and Commerce. As negotiations sputtered in Japan, Gore reversed his long-standing plan to refrain from direct intervention with a dramatic flight to Kyoto and appearance at the negotiating table, at which he announced that President Clinton had endorsed new flexibility in the American bargaining position. This helped break the logjam and led to an eleventh-hour agreement. As the journalist John Cushman later noted, "After delegates caucused, argued, slumped and snored through the night, toward lunchtime, a pact was reached when the session's chairman decreed that an important conflict would be dealt with later."[14]

Kyoto did indeed leave much to be resolved in subsequent rounds of negotiation, which have continued to unfold in recent years. But the Clinton administration endorsement, which involved a formal signing in New York in November 1998, met with an icy reception on Capitol Hill that cut across partisan lines in both the Senate and House. Opponents contended that the pledged emission reductions were too steep and that the Byrd-Hagel warning on engagement of developing nations had gone ignored. "This is not going to pass the Senate—it's not going to come close," said Hagel, after the United States signed the protocol. "Obviously the president knows that. He's doing something very dishonest by signing the treaty and telling America it's good for them but not having the courage to debate it and try to get a vote on it."[15] Vote counts in the Senate suggested that the administration could rely, at best, on ten to fifteen votes in support, far short of the sixty-seven needed for ratification. Consequently, the administration promised to work on securing greater flexibility in ongoing international negotiations and ultimately convince the Senate of the merits of the treaty. However, Clinton and his administration left office in January 2001 having neither submitted Kyoto to the Senate for consideration nor launched a serious effort to persuade legislators or the citizenry of the merits of the treaty.

A Gore presidency would undoubtedly have led to some revitalized effort to pursue ratification. However, the vice president did not use the 2000 campaign to outline his strategy, and, of course, the divisive election resulted in the ascension of George W. Bush to the White House.[16] Like its predecessor, the Bush cabinet was clearly divided in the early months on how to address global climate change. The EPA administrator, Christine Whitman, and a few allies, including Health and Human Services Secretary (and former Wisconsin governor) Tommy Thompson and Treasury Secretary Paul O'Neill, supported a range of policy proposals to reduce greenhouse gases and continued engagement in international negotiations. Some of the policy options under consideration were in fact initiatives that one or more states had already enacted, including Whitman's New Jersey and Thompson's Wisconsin as well as the president's home state of Texas. But Bush faced considerable opposition from other quarters of his administration and key interest group allies, and in March 2001 he decided to disengage from future discussions related to Kyoto.

In announcing his plan to remove the United States from further international negotiations, Bush vowed to substitute a new domestic plan to reduce greenhouse gas releases. It took nearly a year, however, for him to introduce an initiative that offered a proposal to concentrate not on overall emissions but rather on the "carbon intensity" of the economy. This proposal has been through several iterations, but in essence, the Bush plan asks generators of carbon dioxide to reduce their emissions increase to one-third the rate of economic growth, thereby tying voluntary emission reductions to economic output. A wide chorus of observers has concluded that this is an essentially meaningless goal, because the amount of greenhouse gases generated for each unit of economic activity has declined steadily since the mid-nineteenth century. In fact, by Bush's proposed metric, American "carbon intensity" has decreased by approximately 50 percent since 1950 and is expected to continue to decline without any change in federal or subnational policy.

In making this proposal, Bush did endorse some minor modification of voluntary and incentive programs enacted or proposed by his father and President Clinton.[17] The Department of Energy and its secretary, Spencer Abraham, took the lead role in this effort, under the banner of Climate VISION (Voluntary Innovative Sector Initiatives: Opportunities Now). But President Bush expressly excluded carbon dioxide from a related proposal to reduce conventional air pollutants, removing it from consideration under a multipollutant umbrella that has continued to move forward

in a number of states. Relatedly, a number of components of the Bush energy plan, including proposals to expand the use of coal in electricity generation, to intensify exploration for domestic sources of oil, and to maintain standards for motor vehicle fuel efficiency near current levels, would quite likely increase reliance on fossil fuels. Consequently, the Bush plan largely reverses the direction of the first Bush administration and minimizes the likelihood of any serious federal effort to reduce greenhouse gases in the near future.

The American climate change odyssey of the past three presidential administrations has had a significant impact on states and their attempts to define a role in this area. Although their involvement should not be viewed as purely reactive to federal action—or inaction—the very possibility of involvement was influenced by signals from Washington. During the first Bush administration, a number of states did take initial steps, beginning to study the issue and even formulating early policies. States also clearly responded to the opportunities for engagement created by new federal laws on air pollution, energy, and transportation, all of which established either new tools or incentives relevant to development of a long-term strategy for greenhouse gas reduction.

During the Clinton administration, states stepped back somewhat, in part to expand their analytic efforts but also anticipating that the federal government was going to establish some national program, possibly in conjunction with an international climate change regime. After it became evident in 1998 and 1999 that Kyoto was unlikely to be ratified, however, states jumped on the issue with new intensity. That level of involvement has only expanded further in the administration of George W. Bush, when it became clear that the United States had disengaged from international negotiations and that the federal government was unlikely to formulate any serious national strategy to reduce greenhouse gases.

Consequently, a policy problem that had almost universally been defined as a responsibility of international and national governments devolved on a de facto basis in the United States to subnational units. But the disincentives to serious engagement would seem more overwhelming in the individual states than in Washington. If the vast majority of congressional Democrats and Republicans have shown no enthusiasm for greenhouse gas reductions over a decade-long period, why should states be any different? What incentives would states have to unilaterally reduce their emissions, when these would only be a fraction of the national total and would register at best a limited impact internationally? When initia-

tives like Kyoto were being widely denounced across party lines as a threat to long-term economic sustainability, why would a state enact measures to achieve significant reductions? And if a policy entrepreneur like Al Gore, who rose to national prominence and the Democratic ticket in part on the basis of his passionate commitment to confronting global warming, accomplished little on the issue during two terms as vice president and chose to play down the issue during his presidential campaign, why would a state-based policy entrepreneur even consider engaging the issue?

Shifting to the Statehouse

The very idea of decentralized approaches to combat global climate change is not, of course, an exclusively American conception. Some of the existing international agreements and pronouncements that address climate change endorse—albeit in opaque terms—a significant role for "subnational" governments in policy development and implementation. For example, the Agenda 21 Principles, a forty-chapter action plan for sustainable development adopted at the 1992 United Nations Conference on Environment and Development, provides strong endorsement of a "bottom-up" approach to greenhouse gas policy development. The plan supports substantial experimentation and mechanisms for providing "decentralized feedback to national policies."[18] In turn, article 10 of the Rio Declaration on Environment and Development declares that global warming is most likely to be addressed effectively through broad political participation "at the lowest, most accessible, and policy-relevant" level.[19] As the policy analysts David Feldman and Catherine Wilt have noted, these international agreements "clearly reject centralized, bureaucratic approaches."[20]

These statements reflect a growing consensus that endorses decentralization in many spheres of public policy. The conventional wisdom of the 1960s and 1970s reflected severe doubts about the capacity of state and local governments to protect the environment.[21] The inherently cross-boundary nature of many environmental problems and the potential for localized units to shirk responsibility were seen as insurmountable. Applied to climate change, this conventional wisdom anticipated that states would be highly unlikely to act without exact marching orders—and funds for implementation—from the federal government.

More recent analysis, however, has embraced certain state, local, and regional governments as highly committed to environmental protection.

A growing body of scholarship concludes that these decentralized units are increasingly proving more capable and innovative than their central-level counterparts. Indeed, in some areas of environmental policy analysis, such as the growing body of scholarship on the protection of "common-pool resources" and the emergence of "civic environmentalism," subnational units are regularly depicted as capable of doing little that is wrong, whereas their national counterparts are characterized as doing little that is effective.[22]

The past decade has featured a striking convergence of opinion in this regard. A mounting series of studies and reports from such think tanks as the National Academy of Public Administration, the Brookings Institution, the American Enterprise Institute, and the Hoover Institution, among others, confirms the promise of decentralization. Many endorse far-reaching delegation of decisionmaking authority to state governments, allowing them to play a major role in addressing the "next generation" of environmental challenges.[23]

Climate change has not figured prominently in these studies, and yet many policy areas with direct relevance to greenhouse gas emissions now fall under the purview of state governments. States already implement many federal environmental laws; they issue more than 90 percent of all environmental permits and conduct more than 75 percent of all environmental enforcement actions.[24] They play increasingly central roles in the implementation of clean air policy, ranging from involvement in emissions-trading programs for sulfur dioxide to multistate negotiations over control of ozone pollution. Even air emissions from motor vehicles, long assumed to be an obvious candidate for centralized regulation, continue to be heavily influenced by regulatory initiatives from California and northeastern states.

Similarly in energy, states are increasingly influential players in shaping the essential rules that guide the generation and distribution of electricity. Traditional powers of state public utility commissions have only expanded in recent years, owing to restructuring and consideration of related issues such as reliability and environmental impact in an era of deregulation. Other sectors that generate substantial greenhouse gases, including transportation and waste management, or that could offset global warming through carbon sequestration, including agriculture and forestry, retain substantial roles for state governments. Moreover, states have been in the forefront of policy innovations that could directly influence greenhouse gas releases or be adapted to climate change policy, including pollution

prevention, information disclosure, technology sharing, cross-boundary collaboration, and even constructive engagement on common problems with Canadian provinces and other national governments.

Some federal programs may actually serve to increase state engagement on these issues, as did the air pollution, energy, and transportation legislation enacted in the early 1990s. In addition, the federal government has experimented with forms of devolution or power sharing through various administrative agreements. Perhaps the most notable initiatives, and ones with potential ramifications for greenhouse gases, were a series of Clinton administration experiments that gave more latitude to state officials in exchange for demonstrable improvements in environmental performance. In some instances, this involved negotiated settlements for specific facilities, such as Project XL, which was part of the administration's strategy to "reinvent government." This initiative, however, included a limited number of facilities and revealed considerable difficulties in securing multibranch cooperation.[25] A potentially more far-reaching tool is EPA's National Environmental Performance Partnership System (NEPPS), which offers states the prospect of increased flexibility in regulatory interpretation, policy prioritization, and federal grant use in exchange for formal commitments to pursue innovation and achieve measurable improvements in environmental performance. More than forty states have formally participated in NEPPS to some degree, although the program's actual impact on fostering policy innovation appears quite limited in most states to date.[26]

The Rapid Evolution of the State Role in Climate Change

It is possible to identify distinct periods in state approaches to climate change over the past decade. Many of the most prominent state climate change initiatives are of fairly recent vintage, having been approved after the negotiation of the Kyoto Protocol in December 1997. A number of these remain in the earliest stages of policy implementation. Yet at least some states were clearly thinking about this issue and taking some early steps nearly a decade before Kyoto.

This initial stage of innovation coincided with the ascendance of climate change in the media and at the national level in the late 1980s. Many early state programs focused on chlorofluorocarbons (CFCs), reflecting growing concern about their impact on both depletion of the ozone layer and global warming. These efforts were ultimately eclipsed by national and

international agreements on CFC elimination, but they helped put climate change on the agenda of many state governments. Despite the early emphasis on CFCs, a small subset of states passed legislation or executive orders between 1988 and 1990 that expressed concern about other greenhouse gases and endorsed some initial steps.[27] Many of these were focused on the activities of state governments, commonly promoting greater energy efficiency in government-operated buildings and vehicles. These were similar in many ways to what President Clinton proposed for federal institutions a decade later. New Jersey Executive Order 219, for example, signed by Republican governor Thomas Kean in February 1989, called upon all units of state government to take the lead in reducing greenhouse gases. This and related initiatives were largely symbolic, setting nonenforceable recommendations and lacking any resources for implementation. They continue, however, to be recognized in some state policy circles as having established a precedent for further state action.

After this initial flurry of activity, many states pursued analytical work on their greenhouse gas emissions and began to review future policy options in the first half of the 1990s. Federal grants from EPA's State and Local Climate Change Program were combined with state resources to underwrite detailed reviews of greenhouse gas sources and emission trends within individual states. Dozens of states produced detailed "greenhouse gas inventories"; some used these to formulate "action plans" outlining various strategies for emission reduction. These analyses provided an empirical foundation for much subsequent state policy activity and also served, in many states, as an initial opportunity to bring together constituents from diverse state agencies, industries, universities, and advocacy groups to meet and consider climate change as a state policy issue. Multistate networking also began during this period, often through conferences or research reports that allowed states to begin to think more collectively about these issues. All of this activity occurred alongside initial state efforts to respond to new federal policy established on air pollution, energy, and transportation in the early 1990s, which further encouraged states to begin to consider greenhouse gases and utilize new policy tools—such as emissions trading and integrated energy planning—that might prove applicable to larger climate change strategies in the future.

Such analysis continues in many states, often under the auspices of a state agency unit given lead designation for climate change work. Indeed, virtually every state with an active climate change program examined in

this book has at least one official who is widely perceived as a leading expert on the subject, both in how it might affect a particular state and in the development of various greenhouse gas reduction policies. In these states, such professionals often carry the informal title of "Mr. Climate Change" or "Ms. Climate Change" for state government. They are pivotal players in moving the policy process forward.

All of this work set the stage for a much more active period of policy formation in the late 1990s. Some significant state laws were approved during this period, ranging from Minnesota's 1993 legislation to include the environmental and economic impacts of carbon dioxide releases as a formal component of decisions on energy development to Oregon's 1997 law that established carbon dioxide emissions standards for any new electrical power plants opened in the state. At the same time, a significant number of states moved in a different direction, reflecting the burgeoning controversy surrounding Kyoto. During 1998 and 1999, sixteen states (Alabama, Arizona, Colorado, Idaho, Illinois, Indiana, Kentucky, Michigan, Mississippi, North Dakota, Ohio, Pennsylvania, South Carolina, Virginia, West Virginia, and Wyoming) passed legislation or resolutions that were highly critical of the Kyoto Protocol and opposed ratification by the U.S. Senate. Many of these were purely advisory, employing near-identical language from state to state. Some states, however, chose to go further and prohibited any unilateral steps to reduce greenhouse gases. In West Virginia, for example, legislation passed in 1998 prevented state agencies from entering into any agreement with any federal agencies intended to reduce the state's greenhouse gas emissions.

State efforts to contain involvement on climate change have been eclipsed in more recent years with an unprecedented period of activity and innovation. New legislation and executive orders intended to reduce greenhouse gases have been approved in more than one-third of the states since January 2000. Multiple programs have been enacted in some states, and many new legislative proposals are being advanced in a large number of states. These new programs include formal carbon dioxide caps on particular industries, statewide goals for greenhouse gas reductions, formal agreements with utilities and industries to reduce carbon dioxide emissions, mandates to generate specified levels of electricity from sources that generate no greenhouse gases, mandatory reporting of carbon dioxide emissions, voluntary registries for industries seeking credit for reductions in any future regulatory regime, and de facto "carbon taxes" on utility bills that create pools of funds for energy efficiency, among others.

More recently, California jumped into the fray in July 2002 by initiating a decade-long process for establishing carbon dioxide emission standards for vehicles, building on other states' efforts to reduce greenhouse gas releases from transportation sources.

Some states have even begun to work collectively, perhaps best reflected in the efforts of the six New England states to establish regionwide standards and programs in concert with Quebec and the four Maritime Provinces of Canada. This initiative may be expanded in coming years to include additional states and provinces. Despite the common goal of greenhouse gas reduction, there is enormous state-by-state variation in these programs and little sign of formal diffusion of particular programs or policy ideas, aside from the clear diffusion pattern in the anti-Kyoto enactments. However, this pattern may change as the policy area matures, involving a larger number of policies with overlapping components.[28] For example, Nebraska's passage of a program designed to sequester carbon through agricultural practices was signed into law in April 2000 and prompted Illinois, North Dakota, Oklahoma, and Wyoming to pass legislation with virtually identical language within one year. In turn, some states give indication of formally joining forces in an attempt to prod the federal government to take more significant action. For example, the attorneys general of Connecticut, Maine, and Vermont filed suit in federal court in June 2003 in an attempt to force the Bush administration to address carbon dioxide as a pollutant under the Clean Air Act.

State Differentiation and the Role of Policy Entrepreneurs

States have clearly picked up the pace in climate change policy, as measured by the number of new initiatives, their range of coverage, and the rigor with which they attempt to achieve significant reductions. What remains less obvious, however, is why so many states have found it increasingly possible politically to enact policy that continues to defy any consensus at the federal level and for which there is no international or national mandate to take action. Why, in turn, is there such enormous state-by-state variation in response? Why may states that are comparable in geography, likely impact from climate change, level of membership in leading environmental groups, and even partisan control of state government institutions take dramatically different approaches to the same issue?

The recent proliferation of policy innovation demonstrates the variety of policy options open to states, as the diverse range of case studies intro-

duced in subsequent chapters suggests. Conventional analysis of environmental issues might anticipate that factors common to formation of a great deal of environmental policy at the national or international level might also be evident in these state cases. In particular, one might expect that key states may have experienced localized disasters that could be directly linked to climate change and thereby galvanize public opinion. Such "focusing events" might have been seized upon by major environmental groups, which worked closely with sympathetic legislators and governors and journalists to push aggressively for new policy in the face of intense opposition from parties that would incur the costs of regulatory compliance. This might lead to the development of new and formidable advocacy coalitions, which would attempt to garner broad public support for efforts to respond to these serious environmental threats. Perhaps relatively recent outbreaks of drought in agricultural states, coastal calamities in states with lengthy ocean borders, and violent weather outbreaks such as floods and tornadoes created a groundswell of public concern—and a window of opportunity—that forced states to respond to climate change.

But this is not what occurred in the states examined in this study. Instead, a much quieter process of policy formation has emerged, even during more recent years, when the pace of innovation has accelerated and the intent of many policies has been more far-reaching. This is not to suggest that climate-related episodes have been irrelevant or that leading environmental groups have played no role in state policy development. Contrary to the kinds of political brawls so common in debates about climate change policy at national and international venues, however, state-based policymaking has been far less visible and contentious, often cutting across traditional partisan and interest group fissures. It has, moreover, been far more productive in terms of generating actual policies with the potential to reduce greenhouse gas releases.

In many respects, states have had a relatively quiet decade in which to think about climate change, in terms of both how serious an environmental problem they perceive it to be and how they might fashion their own policies to reduce greenhouse gases. In some instances, states are clearly responding to a perception that climate change is real and that there is a serious need to craft policies as soon as possible. But these responses are also coupled with efforts to design policy that "fits" the economic and political realities of a particular state. These are intended to minimize any economic disruptions that might occur during implementa-

tion and to take maximum advantage of economic development opportunities that may stem from early action on climate change. These opportunities may include opening new markets for emissions reduction technologies or generating "credits" through reduced emissions that can ultimately be sold in national or international markets. They may also include compacts with regulated industries that offer new flexibility in regulation or guarantees that any early greenhouse gas reductions will receive full credit in the event that national and international institutions get their respective acts together and establish formal rules for climate change policy.

What has been missing in these state policy processes is the kind of anguished, often moralistic, rhetoric that has polarized national debate and made any semblance of consensus at that level so elusive. Instead, state policy deliberations over climate change may have benefited from a kind of political cover provided by the widely held presumption that states had neither incentives nor resources to play any serious role. Many national interest groups—environmental and industrial—as well as the media and scholarly communities have essentially ignored what states were doing and instead assumed that the real action was occurring in Washington, D.C., or the various cities—from Kyoto to Bonn—where periodic rounds of international diplomacy were being played out.

Many states used this extended period to reflect seriously about the issue of climate change and how they might respond to it. Many built on early symbolic initiatives and used federal resources to study the climate change issue and consider how it might affect them. They also began to develop formal ways to measure their greenhouse gas releases and to consider reasonable steps that might allow them to reduce these releases. At various points, these efforts took institutional form, such as creation of a cross-agency task force or working group. This often included the establishment of a unit given lead responsibility for ongoing analytical work and policy development. Such units were often inserted into existing state agencies, such as those involving environmental protection, energy, or natural resources, usually small in number of staff but diverse in disciplinary and technical expertise.

These units provided a base, in many states, from which agency officials could evolve into prominent "policy entrepreneurs"—individuals who command widespread respect for their expertise on a given issue and their integrity as credible brokers of information. They are often well positioned to see opportunities for new policy and to literally translate ideas for innovation into workable policies. These kinds of entrepreneurs are,

of course, far more than idea generators. They often assume a central role in building and sustaining the coalitions that will be essential in transforming an idea into a policy—such as legislation or an executive order—that reflects a broad base of support. This coalition building includes effectively making the case for a particular policy within agency circles, often convincing an agency commissioner or secretary of the merits of a new proposal. This is a crucial beginning in the process of securing a wider base of support, sustaining resources for the innovating unit, and deflecting opposition from other governmental units that might prefer to see the state pursue other policies that better reflect their own particular interests.

Entrepreneurs must also know how to play outside-agency politics, finding allies who will be attracted to the study of climate change and consideration of policy development. In many states, affiliates of large environmental groups, industry groups, or labor unions have been conspicuously absent from this policy development. "We are busy fighting the tanks on the battlefield that are shooting at us right now," explains a senior member of a state affiliate of one of the nation's largest environmental groups, in a representative comment. "And there are a lot of issues out there with greater immediate visibility and perceived threat to our members than climate change." With many traditional players otherwise occupied, entrepreneurs search for opportunities through alliance with less visible partners, such as smaller environmental groups with particular expertise in emissions trading or a subset of industries prepared to consider significant greenhouse gas reductions in exchange for certain benefits the state might grant. In turn, entrepreneurs must begin to build bridges, with the help of their allies, to legislators and governors—and their aides—who can be persuaded of the political benefits of supporting such steps.

In many instances, these entrepreneurs operate well below the public radar screen. Most receive little or no public recognition for their efforts, even at the moment a policy is approved by a legislature or governor. They tend not even to get their names in the state newspaper of record when policies are enacted or prominent seats at ceremonies when these policies are signed into law; any claiming of credit is dominated by elected officials and other more prominent individuals. Many even lack financial support, which constrains their travel to conferences or to meet with colleagues from other states or the regional offices of federal agencies.

In most cases, these entrepreneurs function within what the political scientist Daniel Carpenter has described as the "mezzo level" of public

bureaucracies. This level falls below the "executive" tier, which consists of cabinet-level appointees who tend to report directly to the chief elected official such as the governor. But it is clearly above the "operations level," which is dominated by officials absorbed with the details of policy implementation, often at the street level. As Carpenter notes in his study of federal-level agencies, officials at the mezzo level tend to have sufficient expertise and latitude to be a source of policy development. They often work effectively to build essential coalitions of networks, including key executive-level allies such as department heads. In some instances, they leap at an opportunity when an executive-level official indicates a willingness to "do something" about a given issue. "The hierarchical structure of many bureaucracies," according to Carpenter, "leaves middle-level bureaucrats in the best position to experiment, learn, and innovate."[29]

In many of these state cases of innovation in climate change policy, mezzo-level entrepreneurs play a pivotal role. These officials consider what they are doing to be among the most exciting and meaningful work of their careers. They clearly hope that their efforts will allow them to remain active in this area. Most have not been groomed for careers in state climate change analysis and policy; many acknowledge that they never even studied the issue in college or graduate school. But they have been prepared for their roles by prior expertise in related areas of policy. In fact, leading state policy entrepreneurs draw heavily on ideas and experience gained in different but highly relevant realms. These include work on emissions-trading programs to combat conventional air pollutants, involvement in prior generations of policy to promote greater energy efficiency and development of renewable energy sources, and engagement in policies to promote recycling of solid waste. Each of these areas offers a type of "path dependence," providing ideas and insights that entrepreneurs translate and apply to the issues involved in addressing climate change.

The very notion, of course, that agency-based entrepreneurs have assumed lead roles in the formation of climate change policy in a diverse set of state capitals may seem counterintuitive. An entrepreneurially based approach to the development of climate change policy challenges much conventional analysis of agency officials and their behavior. A great amount of academic and journalistic ink has been spilled in recent decades accounting the dysfunctional qualities of such officials, more commonly known as bureaucrats. These analyses take different forms but often question the basic competence of these officials and their ability to function in

an effective manner. One important line of scholarly work notes a growing pattern whereby elected officials at federal and state levels—commonly known as "principals"—have increasingly attempted to constrain the behavior of bureaucrats—widely characterized as "agents." Under this approach, elected officials are clearly in command. They compose increasingly detailed legislation and rules to maximize the likelihood that agency officials will be confined to carrying out exact marching orders and face punishment for efforts to "shirk" their duties or "sabotage" these commands.

This study's emphasis on entrepreneurs as central agents of change is not intended to suggest that bureaucrats have somehow broken the chains of the principal-agency bond and are running wild. Larger political and economic contexts can influence whether agency officials can legally even talk about climate change policy, much less take steps to develop it. In particular, states with economic interests threatened by any unilateral state action to reduce greenhouse gases may quash any serious opportunities for entrepreneurial activity. Nor is this analysis intended to suggest that these state cases reflect an American version of the popular British situation comedy, *Yes, Minister,* in which bureaucrats regularly outsmart clueless elected officials and thereby call the shots.

But it does indicate that at least some officials in some states possess far greater analytical and political skills than are generally associated with bureaucratic behavior. Indeed, this finding may be consistent with a growing response to much conventional analysis. As the political scientists John Brehm and Scott Gates have noted, "Despite significant efforts to constrain bureaucratic choices, bureaucrats possess significant degrees of discretion."[30] In all the states in this study that have pursued climate change policy initiatives, state agency officials have retained such discretion and utilized it to assume central roles as policy entrepreneurs. This finding may be consistent with a growing literature on policy entrepreneurship that explores the roles that agency officials—and other entrepreneurs—may play in both the domestic and international arenas.[31]

In the case of state policy to reduce greenhouse gases, policy entrepreneurs may have taken advantage of three distinct elements of this evolving issue area. First, the decade-long failure of federal government institutions to enact even the basic design of an emissions reduction policy has clearly created "policy room" for state experimentation. Much scholarly and media analysis of climate change has presumed that some grand, internationally recognized regime would soon be established and thereby impose the rules of the game on all participating jurisdictions.

State-based entrepreneurs have proven increasingly skeptical of federal action, as well as the long-term viability of Kyoto, in making the case for states to take the lead, both to achieve early reductions that may receive credit in the longer term and to influence the shape of future federal and international policy.

Recent experience would suggest that climate change is such a complex, cross-cutting issue that there is not "one best way" to reduce greenhouse gas emissions or even a single economic or policy sector upon which reduction can best be concentrated. Even international agreements with some measure of support outside the United States, most notably Kyoto, are riddled with loopholes and implementation uncertainties among participants.[32] Different states may be unusually well equipped to fashion reduction strategies that make sense, given their particular mix of economic and governance realities and the fact that no government or private entity has mastered "how to do" climate change policy. This uncertainty has created a national policy void that has proved increasingly inviting to state policy entrepreneurs.

Second, state-level policymaking is often quite different from what occurs in Washington. As at the federal level, state governments can bog down in partisan squabbles and succumb to the powers of influential interest groups. But in many states, policymaking is far more informal, and entrepreneurial opportunities may be considerably greater, than in Washington. In the absence of particularly strong opposition from interest groups, entrepreneurs may have a much better opportunity to establish and sustain supportive networks. These may involve other agencies, interest groups, or allied elected officials and may have been established over an extended period, over a decade in some of the state climate change cases. The mezzo level in many state agencies, such as environmental protection and energy, is much less densely staffed than in their federal counterparts, and the layers between an agency and the governor's office are likely to be much thinner. This allows an individual to emerge as the trusted resident expert on a particular topic, such as climate change, able to get important messages to prominent places in the state governance structure. Consequently, many state capitals may offer particularly promising entrepreneurship opportunities, particularly for relatively "new" issues for which an infrastructure of established policies and interest group positions has not been created.

Third, and perhaps most significant, states may be increasingly inclined to take leading-edge action on environmental issues, even reduction of

greenhouse gases, because they perceive it to be in their economic self-interest to do so. Such a stance reflects a generation of evolution in state economic development and environmental protection policy. As a result, an earlier tendency to depict environmental protection efforts as posing a zero-sum trade-off with economic growth has long since been supplanted in many states by a more nuanced view that recognizes a variety of economic advantages from environmental protection.

State governments remain remarkably sensitive to economic development.[33] Governors and legislators are acutely aware that their long-term fortunes may hinge on electorate perception of their economic stewardship. This explains the massive efforts made by most states to respond to the needs of established firms at the same time that they are constantly searching for ways to underwrite future development opportunities, whether home grown or lured across state boundaries. Conventional thinking about state politics has presumed indifference to environmental protection, particularly in instances in which at least some locally generated contamination might migrate across state or national borders. States, in short, have been deemed so determined to sustain local economic activity that they would not want to take any steps to unilaterally impose regulations and thereby increase the cost of doing business within their boundaries. Such an approach has fueled long-standing opposition to more decentralized regulatory strategies, assuming that any deviation from federal command-and-control policies would unleash a "race to the bottom." In such a race, states would presumably trip over one another in trying to set the lowest possible standards and thereby appease in-state firms eager to minimize compliance costs.

Such a perception seems decreasingly compelling when weighed against the preponderance of evidence concerning state government innovation and expansion of capacity to address environmental problems. One clear motivating factor involves quality-of-life calculations, whereby states seek to project environmentally clean images and maximize their attractiveness to potential residents and investors. This may be especially evident in the case of states long derided for having environmental quality that is so poor as directly to impair economic development efforts. New Jersey, which figures prominently later in this book, may be the premier example of this phenomenon.

Greenhouse gas reduction may appear, at first glance, a very long-term strategy for economic development by state governments. But state receptivity to a range of climate change policies suggests that supporters per-

ceive multiple benefits from early action, many of which could offer immediate economic payoffs. In one set of cases, state concern about adverse effects of climate change is very real. Reduction of greenhouse gases has been received as the beginning—albeit small—of a credible response to protect economic concerns, whether oceanfront development or preservation of tourism. In most others, however, supplemental impacts from reducing greenhouse gases may have spillover benefits, including diversification of energy supply, coordinated reduction of overall air emissions, increased agricultural productivity, reduced traffic congestion, and longer-term regulatory predictability for regulated firms, among many others. In short, the conventional analysis of strategies for greenhouse gas reduction that assume the only conceivable benefits stem from any long-term impact to slow the pace of climate change misses the mark when one looks at the more expansive set of factors motivating states to act. In all of the cases presented in this book, economic development has been a contributing—and, in some instances, dominating—factor behind state greenhouse gas reduction policy.

Issue Framing and Policy Labeling

Just as no two state polities are identical, not all states provide conditions whereby entrepreneurs may emerge, much less have an impact on policy. Figure 1-1 outlines a framework for explaining the significant variation demonstrated by respective states in moving into the area of climate change policy. Viewing states through the lens of this framework reflects case study analysis of their past decade of experience—or lack thereof—in various aspects of policy related to climate change. For the kinds of policies addressed in this book, issue framing and policy labeling are particularly important components in understanding the varied terrain upon which potential entrepreneurs must operate at the state level.

Issue framing reflects the most common way in which a policy issue has come to be characterized—or defined—in a given political system. Framing explains the ways in which, according to the political scientist Bryan Jones, attention has been directed "to one attribute in a complex problem space."[34] It thereby reflects the way state political actors and the general citizenry tend to conceptualize an issue, implicitly defining boundaries of what may be possible before the particulars of a given policy are proposed. As the political scientist Shanto Iyengar has noted, "The manner in which a problem of choice is 'framed' is a contextual cue that may profoundly

Figure 1-1. *Framework for Explaining State-by-State Approaches to Greenhouse-Gas Reductions*

Issue framing	*Policy labeling*	
	Explicit	*Implicit*
Response to environmental threat	Prime-time strategies —CO_2 and greenhouse gas regulatory standards —Mandatory CO_2 reporting —Statewide greenhouse gas reduction commitments —Industry reduction covenants (New Jersey, Oregon, Wisconsin, New Hampshire, all New England states) 1	Stealth components of prime-time strategies —Social benefit charges for energy —Energy efficiency 2
Response to economic development opportunity	Opportunistic strategies —Agricultural carbon sequestration —Forestry carbon sequestration —Technology transfer agreements (Illinois, Nebraska) 3	Stealth strategies —Renewable portfolio standards —Vehicle use reduction (Texas, Georgia) 4
Response to economic threat	Hostile strategies —Bans on any state agency actions to reduce greenhouse gases —Anti-Kyoto resolutions (Michigan, Colorado) 5	Indifferent strategies —Disengagement from interstate discussions —Failure to apply for federal funds (Florida, Louisiana) 6

influence decision outcomes."[35] Policy entrepreneurs may devote considerable attention to framing an issue in such a way that a policy response becomes compelling.

In contrast, *policy labeling* is more precise. It describes the explicit language used to describe policies that may be attempted, given the opportunities provided (or constraints imposed) by issue framing. Elected officials are highly sensitive to policy labeling, clearly eager to claim credit and avoid blame for their actions. The way in which various policies are labeled may help them maximize credit or minimize blame.[36] Labeling thus becomes an important—and revealing—aspect of the strategic development of climate change policy.

Issue Framing for Climate Change

At the state level, issue framing helps explain how climate change has come to be characterized and whether some policy response may be mer-

ited. It also helps guide what kinds of policy responses, if any, may be possible. Framing may help determine whether policy entrepreneurs can literally survive in a state agency, much less successfully influence policy. For environmental issues for which there has been a dramatic focusing event, such as an oil spill or a massive release of toxic chemicals, the issue is likely to be framed as a disaster that merits immediate and extensive action. But not all issues provide such clear framing.[37] In fact, in areas in which focusing events—and strong political advocacy—have been lacking, opportunities for entrepreneurs to contribute directly to issue framing may be significant, whether through release of studies and testimony, development and advocacy of policy proposals, or formation of coalitions.

The cases considered in subsequent chapters suggest that states may frame their policy reactions to climate change in one of three ways: as a response to an *environmental threat*, as a response to an *economic development opportunity,* or as a response to an *economic threat* (see figure 1-1). In some instances, a state may determine that climate change is a serious environmental problem: if ignored, the accumulation of greenhouse gases may pose significant environmental threats to that state. Under these circumstances, a policy response designed to reduce greenhouse gas emissions is warranted. But the state response will be tempered by an attempt to minimize economic disruption and will, to the extent possible, use any intervention available to foster economic development. A number of strategies make such a linkage possible. For example, a state may give special designation to a firm that achieves greenhouse gas reductions and offer it various benefits, such as more flexible compliance schedules for routine inspections or greater latitude in changing product design—and related emissions—as long as overall releases stay below an established cap. In such cases, policy entrepreneurs have maximal latitude both in framing climate change as an issue warranting a serious response and in crafting a significant policy or set of policies.

In another set of cases, states may not view climate change as a major environmental challenge but may instead identify promising opportunities for economic gain by enacting policies that reduce greenhouse gases. These may allow a state to seize opportunities presented by evolving international markets for emissions-credit trading. It might also position a state to become a leader in the development of a particular technology and skill that could eventually be exported to other nations and states. The policy may acknowledge a potentially salutary environmental impact through reduction of greenhouse gases, but this is not a primary moti-

vating force behind its formation. In fact, without the possible economic payoff, it is highly unlikely that the state would take this policy step. Measuring and marketing "carbon credits" through agricultural and forestry practices that actually offset greenhouse gas emissions is one obvious approach that may fit this set of cases. In these cases, entrepreneurs will accentuate the economic development benefits of such a strategy, with any environmental improvement derived from greenhouse gas reduction "framed" as only a supplemental benefit.

In still other cases, a state may react to climate change in a manner similar to the federal government. It may or may not acknowledge climate change as a potential long-term environmental threat but is principally motivated by alarm that any serious response could have severe short-term economic repercussions. Indeed, in these cases, the anticipation of negative economic impacts from any efforts to reduce greenhouse gases clearly outweighs any potential benefit that a state might derive. Such states may develop new policies concerning climate change, but these will be designed to thwart state officials—and potential entrepreneurs—from taking any steps that could result in greenhouse gas reduction. Much as the Knollenberg Amendments have served to constrain potential actions by federal agencies, states that frame climate change principally as an economic threat in the event that any reductions are attempted will work aggressively to prevent that eventuality. In these cases, entrepreneurs may lie low in anticipation of some future shift that might create an opportunity more receptive to greenhouse gas reduction, perhaps through a change in elected officials, agency leadership, or the stance of influential interest groups in the state.

Policy Labeling for Climate Change

Because different states frame possible responses to climate change in different ways, the labels used to describe their policy responses may reveal their strategic responses to these conditions. Entrepreneurs may be particularly well positioned to influence labeling decisions to thereby maximize the likelihood of political appeal. Labeling may be particularly sensitive in this area, given the large amount of scientific and political controversy surrounding the issue of climate change. In fact, sensitivities may be so great that a state may make no effort to acknowledge that its policies might reduce greenhouse gases. Instead, it may select labels that highlight other attributes of the policy and thereby obscure any potential impact it may have on climate change. The policy may, of course, be rela-

beled at some future point when it becomes politically appropriate to do so, such as a point at which a state—or its governor—might be eager to demonstrate that it is doing something to combat climate change.

Given the ubiquity of greenhouse gases and the wide range of policies that may influence their generation, potential reduction policies do not have to use explicit labels such as carbon dioxide, methane, or greenhouse gases to describe what they intend to do. In some states, policy labeling will be explicit, however the issue is framed. For example, if officials want to claim credit for a response to the environmental challenge of climate change, they may well use specific labels such as "greenhouse gas reduction" or "carbon dioxide mitigation." States eager to seize the economic development advantages of early involvement in climate change policy may similarly be eager to be explicit about their intent. For New Jersey governor Whitman, explicit labeling of most elements of that state's climate change policy afforded a superb opportunity to claim credit. The issue of climate change had been increasingly framed in New Jersey in the late 1990s as a significant environmental threat for which a serious—but economically feasible—policy response was appropriate. Whitman had been widely criticized for budget cuts that resulted in significant reductions in state environmental management staff. She had also been attacked for taking an allegedly weak approach to the enforcement of existing environmental laws, seen as overly deferential to the preferences of regulated parties.[38] Thus an executive order explicitly labeled to address greenhouse gases—issued at a well-attended ceremony—allowed her to claim credit for responding to a new environmental problem and deflect blame for the way she had handled previous ones.

In contrast, other states may choose to play down the greenhouse gas reduction elements of a particular policy and instead accentuate other features. The reduction may well occur, and it may be carefully monitored by the state for potential future use. But the policy will be labeled in such a way as to make it more clearly palatable politically and suitable for the way the issue is framed in a given state. Consequently, officials will be able to claim credit for elements of the policy that are more attractive—such as increased energy efficiency, reduced traffic congestion, long-term regulatory predictability, or improved air quality—and deflect any potential blame for getting too far ahead of the rest of the nation on a controversial issue such as climate change. For example, Texas officials intentionally chose not to label their renewables portfolio standard as an initiative to reduce greenhouse gas emissions, even though all parties recognized

that aspect of the proposal and the state has continued to monitor actual reductions. There is no reference to greenhouse gases or carbon dioxide in any part of the 1999 legislation. But as the possibility increased that Governor Bush might become President Bush—and as the program stimulated an unexpectedly huge growth in the supply of renewable energy—a gradual relabeling has occurred whereby Texas officials are increasingly inclined to speak in explicit terms about the greenhouse gas ramifications of the program. Even George W. Bush has begun to use the program as an indicator of his commitment to greenhouse gas reduction, although he never applied such a label in public at the time the bill was signed in 1999.

Differing Opportunities and Constraints

Blending issue framing and policy labeling into a common framework creates six distinct cells that differentiate individual states from one another as well as the kinds of policies they are likely to generate (figure 1-1). Each of these cells is introduced briefly below, including some of the types of policy responses that might be anticipated from each set of states. It is also used in subsequent chapters to more fully differentiate specific state cases and their respective policy responses.

Prime-time states (cell 1) have formally recognized climate change as a serious environmental threat and have responded with multiple programs that explicitly establish greenhouse gas reduction as a state policy goal. Such states may respond with a comprehensive initiative that creates a statewide reduction goal and then delineates strategies for achieving its pledged reductions. Other prime-time states may have approved various elements of a strategy through separate laws and executive orders in moving toward a comprehensive strategy. Prime-time states are those in which governors have "gone public" in their support for greenhouse gas reduction. They have made multiple pronouncements that they take this issue seriously yet want to tailor state response to economic opportunities and concerns. Entrepreneurs have generally been active for much of the past decade in these states, trying to push the state as far as is politically feasible. In this study, New Jersey, Oregon, Wisconsin, and New Hampshire (as well as the entire cluster of New England states) belong in cell 1. Illinois also demonstrates some of the characteristics of this type of state but does not fully fit into this cell.

Prime-time states may, in some instances, choose to play down the specifics of some elements of their strategies. Labeling may come into play

in these cases—for example, when a state wants to include greenhouse gas reductions from a particular policy in its overall approach but takes the political decision to delete any specific references to carbon dioxide and greenhouse gases. Such *prime-time stealth* states (cell 2) choose to accentuate other aspects of the proposed policy instead. For example, a number of states place fees on electricity bills, most commonly known as "social-benefit charges," allocating generated funds to energy efficiency or development of renewable energy sources. These clearly have the capacity to reduce greenhouse gases through reduced electricity consumption, but states have been wary of labeling them as either "taxes" or "climate change" policies and instead emphasize other energy-related goals.

In contrast, *opportunistic* states (cell 3) have developed one or more programs to reduce greenhouse gases and are primarily motivated by opportunities for economic development. Such states have not registered particularly strong concerns about climate change as an environmental threat, although they are not hostile to taking steps to reduce greenhouse gases—as long as economic development opportunities are paramount. These states tend to produce policies that pay only passing reference to environmental impacts and instead almost exclusively emphasize the policy's economic objectives. In terms of labeling, they are explicit in outlining ways in which carbon dioxide or greenhouse gas mitigation will be addressed. These types of states tend to have fewer overall greenhouse gas reduction programs, unlike their prime-time counterparts. They may, in fact, have only a single initiative in place. In these cases, governors and prominent elected officials ultimately claim credit for the policy but focus almost exclusively on its linkage with other economic development strategies of the state. Entrepreneurs in opportunistic states tend to be relative newcomers to the climate change issue, compared with their counterparts in prime-time states. Nebraska is a primary example of an opportunistic state, viewing necessary agricultural reforms as a potential "carbon cash crop." Many elements of Illinois's approach to this issue also are consistent with the opportunistic definition.

Stealth states (cell 4) may pursue somewhat similar approaches as opportunistic states and be similarly motivated by economic development opportunities. But these states, as suggested in the Texas case noted above, have made a clear decision to refrain from referring to their policies as related in any way to greenhouse gas reduction. In these instances, state officials are indeed aware of likely reductions and take steps to measure them to ensure credit for use in any future reduction strategies. Hence

reductions are best thought of as "incidental" rather than "accidental." But governors and elected officials in these cases make no effort to claim credit for the greenhouse gas reduction efforts and may not want key constituencies to realize they are even considering the issue. Indeed, they may fear that explicit reference to greenhouse gas impacts could serve to block the policy and also mitigate any political benefit they might derive from accentuating anticipated economic benefits. In these cases, entrepreneurs who promote the policy for its greenhouse gas impacts must walk a particularly delicate line; they must be adept with labeling and careful to play down any climate change impacts. "Shhh, don't say the term 'greenhouse gases' too loudly," hushed a prominent policy entrepreneur in a stealth state. "We're getting something done here, on conventional air pollutants *and* greenhouse gases. We sure don't want to blow that." Of course, relabeling can occur, again illustrated in the Texas case, as political conditions change. In this study, Texas and Georgia clearly belong in the stealth category, although some elements of Colorado's approach also fit here.

Finally, some states may not perceive climate change as a credible environmental concern. They may instead view any policy that would unilaterally reduce greenhouse gases as a serious threat to their economic well-being. States taking this stance are likely to be those with one or more prominent industries that generate large quantities of greenhouse gases and would oppose unilateral state reduction efforts. States with large auto-manufacturing capacity (such as Michigan), major coal-mining operations (such as West Virginia), or massive coal-burning utility plants (such as Ohio) would appear least receptive to entrepreneurial actions to reduce greenhouse gases. In fact, such states have been among the most resistant to making any effort to reduce emissions to date. These states may respond in one of two ways. Some will become outwardly *hostile* (cell 5) to any possible intervention and take steps to preclude that possibility. Such states may go so far as to formally prohibit state officials—potential entrepreneurs—from taking any steps to develop or propose policies that would have the effect of reducing greenhouse gases. They may also express formal unwillingness to work cooperatively with federal agencies or even refuse federal funds for research. Such states clearly want nothing to do with climate change policy development, and their elected officials may use such policies to demonstrate to key constituents their determination to protect their interests. In fact, they may boast of their indifference to greenhouse gases and deride any concern over the issue as environmental

hysteria. Michigan is a leading example of a hostile state in this study, although Colorado also demonstrates many such characteristics.

A more subtle variation of this approach is taken by *indifferent* states (cell 6), which do not formally go on record with prohibitive policy. Nevertheless, these states also choose to refrain from any involvement in climate change policy development. They secure their goals by not saying or doing much of anything about climate change. They apply belatedly, if at all, for federal grants; they do not attend regional or national meetings on the subject or actively pursue reduction policies; and they implicitly make clear to their state officials that climate change is largely off-limits as a potential area of activity. Florida and Louisiana epitomize this type of state.

Obviously, the roles of potential entrepreneurs will vary markedly by the kinds of political conditions they face. Entrepreneurs in prime-time states may have considerable opportunities to do their thing, whereas counterparts in hostile states may face sanction—or unemployment—if they so much as discuss the issue. In fact, in hostile states, entrepreneurial opportunities related to climate change may clearly be better for those officials eager to win the support of senior appointees and elected officials by demonstrating their commitment to stomp out any contrary activity. In contrast, of course, entrepreneurial opportunities expand the more issue framing moves in the direction of the prime-time cell. In such cases, states may emerge with fairly comprehensive strategies to reduce greenhouse gases. They may also enjoy both a supportive coalition and sufficient managerial competence to implement these programs. Ironically, given federal disengagement of the United States in Kyoto and related international negotiations, some of the prime-time states may be more capable of meeting Kyoto-type reduction goals than many of the nations that have ratified the protocol. Not all states, however, are ready for prime time.