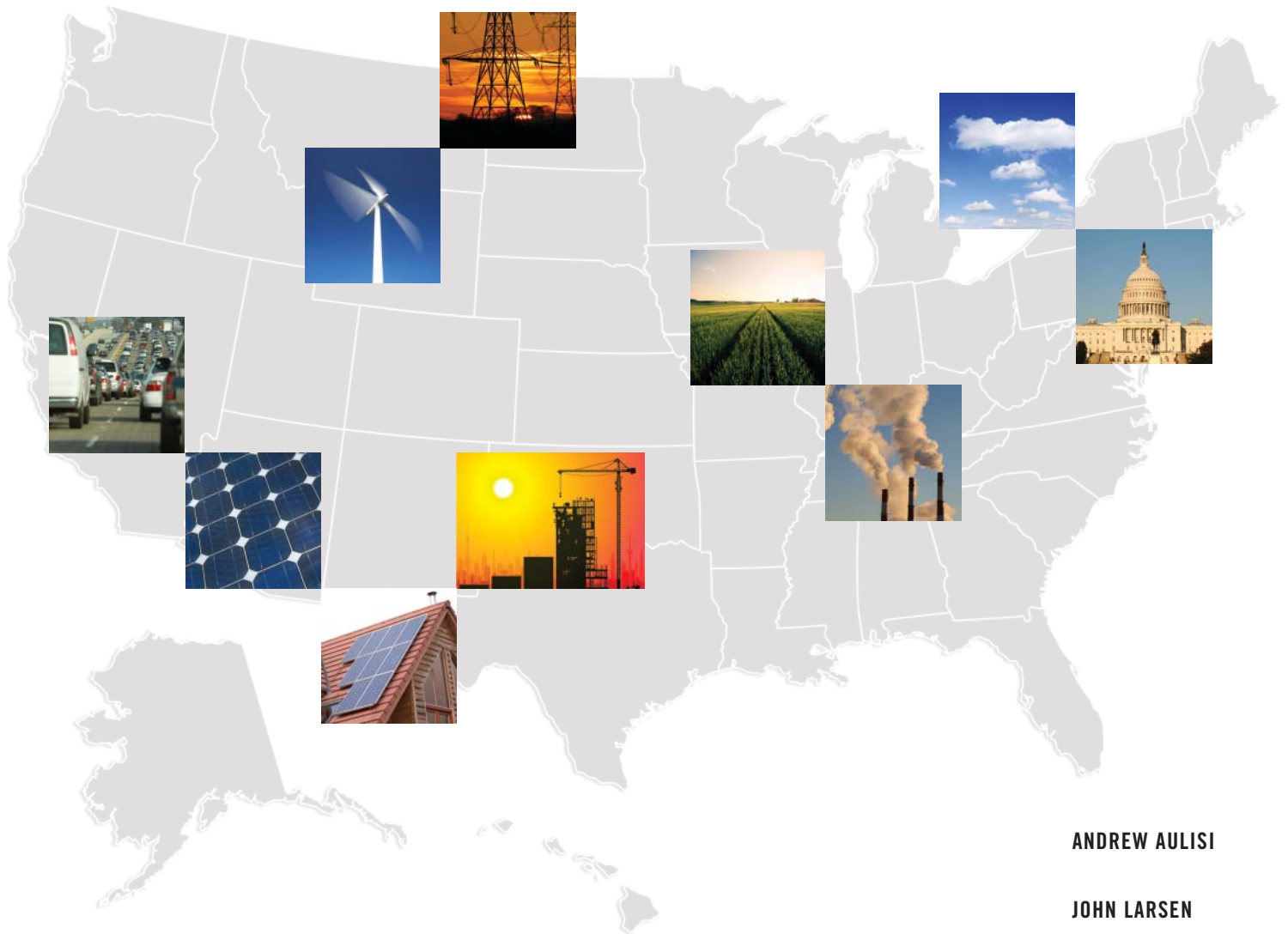




WORLD  
RESOURCES  
INSTITUTE

WRI WHITE PAPER



ANDREW AULISI

JOHN LARSEN

JONATHAN PERSHING

PAUL POSNER

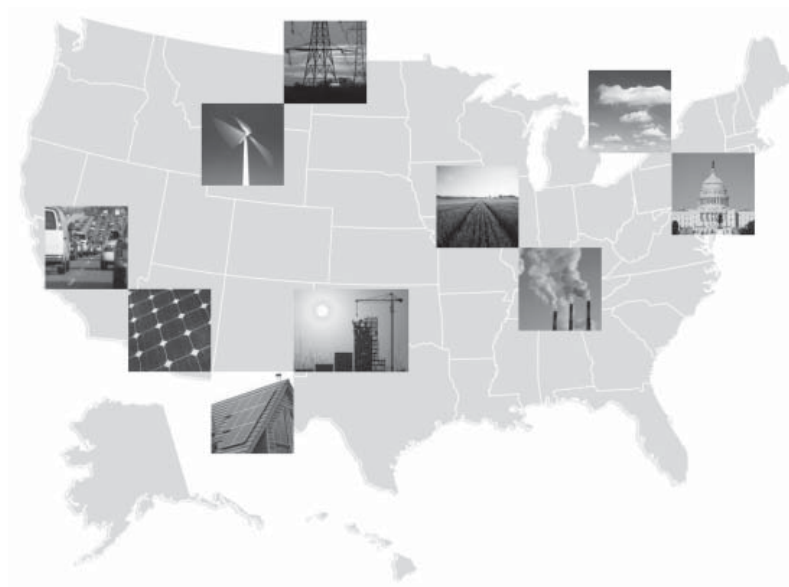
# CLIMATE POLICY IN THE STATE LABORATORY

How States Influence Federal Regulation and the  
Implications for Climate Change Policy in the United States



# CLIMATE POLICY IN THE STATE LABORATORY

## How States Influence Federal Regulation and the Implications for Climate Change Policy in the United States



Andrew Aulisi

John Larsen

Jonathan Pershing

Paul Posner

August 2007



WORLD  
RESOURCES  
INSTITUTE

[www.wri.org](http://www.wri.org)

MARGARET B. YAMASHITA  
EDITOR

HYACINTH BILLINGS  
PUBLICATIONS DIRECTOR

MAGGIE POWELL  
LAYOUT

---

Each World Resources Institute report represents a timely, scholarly treatment of a subject of public concern. WRI takes responsibility for choosing the study topics and guaranteeing its authors and researchers freedom of inquiry. It also solicits and responds to the guidance of advisory panels and expert reviewers. Unless otherwise stated, however, all the interpretation and findings set forth in WRI publications are those of the authors.

Copyright © 2007 World Resources Institute. All rights reserved.

ISBN 978-1-56973-663-0

# Contents

Acknowledgments	iv
About the Authors	iv
Foreword	v
List of Acronyms	vi
Executive Summary	1
1. Introduction	4
2. Study Methodology	7
3. Factors for Successful Diffusion	10
4. The RGGI, California Vehicle Standards, and Factors for Diffusion	15
5. Discussion and Conclusions	21
Suggested Areas for Additional Research	24
Appendix: Case Studies	25
1: Acid Rain and the Regulation of Sulfur Dioxide (SO <sub>2</sub> ) Emissions	26
2: Appliance Efficiency Standards	29
3: Asbestos in Schools	31
4: Nitrogen Oxide (NO <sub>x</sub> ) Emissions Trading	33
5: Organic Farming	36
6: Vehicle Emissions Standards	39
7: Divestment from South Africa and Burma	42
8: Education Testing	46
9: Enterprise Zones	49
10: Gun Control Laws	51
11: Welfare Reform	53
12: Balanced-Budget Amendment	56
13: Land-Use Planning	59
References	61

## Acknowledgments

The authors gratefully acknowledge the contributions to this publication by Josh Bushinsky, Judi Greenwald, Andy Keeler, Amy Royden-Bloom, and Christopher Sherry. We also thank Rob Bradley, Florence Daviet, Tim Herzog, David Jhirad, Jeff Logan, and Hisham Zerriffi at the World Resources Institute for their comments.

We also express our gratitude to Hyacinth Billings, Jennie Hommel, Maggie Powell and Margaret B. Yamashita for their assistance in turning our draft paper into a completed publication. The authors thank the Energy Foundation for its support.

The authors alone are responsible for the views and perspectives expressed in this publication.

## About the Authors

Andrew Aulisi is the director of the Markets and Enterprise Program, John Larsen is a research analyst, and Jonathan Pershing is the director of the Climate and Energy Program at the World Resources Institute. Paul Posner is the director of the Public Administration Program at George Mason University.

## Foreword

Some years before I had the privilege of leading the World Resources Institute, I served as Secretary of Natural Resources for the state of Vermont. I had come to that post after several years of prodding, praising, and occasionally suing the federal environmental bureaucracy in Washington, DC. In Montpelier, it quickly became clear to me that to try new and creative approaches to solving environmental problems, state government was the place to be. Today, after many more years in Washington, my appreciation for the innovative capacity of state governments has been repeatedly confirmed.

America has a long and inspiring tradition of policy innovation and activism that is incubated at the state level. The states often take to the front lines of cutting-edge policy development, creating fresh and inventive programs to address the concerns and needs of their constituents.

From standards for organic agriculture, to removing asbestos from schools, to creating enterprise zones, and reducing acid rain pollution, the states have shown a path forward and provided both the problem-solving acumen as well as the pressure to induce the Federal government to act.

Of all the environmental problems now confronting this nation and the rest of the world, none holds greater potential for irrevocable and destructive disruption to our lives than climate change. Yet, up to now, our national government has failed to respond with initiatives appropriate to what looms ahead.

The most significant first steps designed to measure and control the emission of greenhouse gases have come from an impressive number of states in this country. Ten states in the Northeast, seven in the West, and several in the Midwest are in the process of implementing mandatory programs to measure and reduce greenhouse gas emissions.

And not surprisingly, as well, is the fact that over 100 cities have gotten on board, to one degree or another, taking concrete steps to reduce their contribution to climate change or to add their political clout to efforts to spur the national commitment needed to help catalyze essential international compacts.

This timely report documents state efforts now underway to address the problem of climate change and our contribution to it. It puts them into the historical context of previous initiatives by states to lead our country in making difficult but necessary national decisions.

Just as there is no “silver-bullet” technology that will solve climate change, there is no “silver-bullet” policy either. The commitment to policy innovation by U.S. states may prove to be the wellspring from which we build the low-carbon economy of the future.

I take great comfort in that we have not lost our willingness and ability as a people to challenge and lead, no matter from what level of government we may start. That is, really, what this report is all about. I hope you enjoy it, and are inspired by it.

— *Jonathan Lash*

## List of Acronyms

AAM	Alliance of Automobile Manufacturers	NCLB	No Child Left Behind Act
AFDC	Aid to Families with Dependent Children	NFTC	National Foreign Trade Council
AHERA	Asbestos Hazard Emergency Response Act	NGA	National Governors Association
AQA	Air Quality Act	NHTSA	National Highway Traffic Safety Administration
ASEAN	Association of Southeast Asian Nations	NOSB	National Organic Standards Board
AYP	Adequate yearly progress	NRA	National Rifle Association
CAA	Clean Air Act	NRC	National Research Council
CAAA	Clean Air Act Amendments	NRDC	Natural Resources Defense Council
CAIR	Clean Air Interstate Rule	PSEG	Public Service Electric and Gas Company
CAIT	Climate Analysis Indicators Tool	OFPA	Organic Foods Production Act
CARB	California Air Resources Board	OTA	Organic Trade Association
CBO	Congressional Budget Office	OTC	Ozone Transport Commission
CCOF	California Certified Organic Farmers	OTAG	Ozone Transport Assessment Group
CEC	California Energy Commission	PCV	Positive crankcase ventilation
DOE	United States Department of Energy	RGGI	Regional Greenhouse Gas Initiative
EDF	Environmental Defense Fund	RPS	Renewable Portfolio Standards
EIU	Employees International Union	SIP	State implementation plan
EPA	United States Environmental Protection Agency	SLORC	State Law and Order Restoration Council
ESEA	Elementary and Secondary Education Act	SPZAs	Standard Planning and Zoning Acts
GAO	Government Accounting Office	TANF	Temporary Assistance for Needy Families
GHG	Greenhouse gas	TASS	Texas Assessment of Academic Skills
IPCC	Intergovernmental Panel on Climate Change	UARG	Utilities Air Resources Group
MOU	Memorandum of Understanding	USDA	United States Department of Agriculture
NAAQS	National Ambient Air Quality Standards	VOCs	Volatile organic compounds
NADA	National Automobile Dealers Association	WDNR	Wisconsin Department of Natural Resources
NAECA	National Appliance Energy Conservation Act	WTO	World Trade Organization
NAPAP	National Acidic Precipitation Assessment Program		



## Executive Summary

The United States federal government is lagging behind the governments of other industrialized countries in developing policies to address climate change and reduce greenhouse gas (GHG) emissions. At the same time, however, many U.S. states are seeking to implement aggressive, mandatory emissions controls.

In many areas of public policy, the states have led in policy development and innovation and have subsequently influenced federal action. The relationship between state and federal policymaking is complex, however, and the states do not often have a clear and unique claim to leadership and public policy successes. In fact, on matters of great public concern, state and federal policymakers usually work concurrently and sometimes cooperatively, although state governments may be more nimble and closer to affected constituencies and therefore better able to implement policy responses more quickly. When the states do lead, they may innovate policies that incubate at the state level for some time before a window of opportunity arises at the national level to allow for their relatively quick acceptance by the federal government. Conversely, the states may attempt to lead in a given area of policy only to be thwarted by federal preemption and thus lose their ability to set the policy agenda.

To understand the state–federal relationship and its implications for climate change policy in the United States, we reviewed eleven successful and two unsuccessful instances of policy diffusion from the state to the federal level, known as *vertical diffusion*. These case examples include environment and energy policies as well as policies involving other major areas of public concern, such as education and welfare. Each case describes the social, economic, or environmental problem being addressed, the significant events, the drivers for change, the principal stakeholders, the level of communication and cooperation between the states and the federal government, the action by the states, and the subsequent federal policy outcome.

Using these cases, we identified and evaluated seven factors related to the successful vertical diffusion of policy. We then discussed two notable mandatory climate regulations at the state level, the Regional Greenhouse Gas Initiative (RGGI) and the California GHG vehicle standards, and examined their potential to shape federal action based on our seven factors.

The most important of these factors appears to be state advocacy for federal policy adoption. Another important factor, closely linked to state advocacy, is the *spillover effect*,

or the degree to which the perceived benefits and costs of a policy (and the problem it is meant to address) cross state lines. The existence of a strong spillover effect coupled with state advocacy appears to be sufficient to catalyze vertical diffusion even without the widespread state adoption of a policy. Indeed, although the widespread adoption of a policy at the state level, or *horizontal diffusion*, can be important, it does not guarantee that the policy will diffuse to the federal level.

The power of example also is important. The fact that states are able to create, design, and implement policies often serves as a strong impetus for federal action. The influence of empirical cost data does not seem to be a significant factor, however. In some cases, the reason might have been that cost was simply not a major issue or relevant data were not available. In other cases, the federal decision-making process found the cost data to be either unnecessary or not worthy of attention.

Businesses' support of federal policies is complex. Although businesses often call on the federal government to preempt state policy initiatives, those state initiatives that are adopted by the federal government may force businesses to accept a compromise somewhere between total federal preemption and full state retention of regulatory jurisdiction, in the form of federal standards or minimums reflecting (at least in part) the states' regulatory goals.

In cases dealing with environment and energy policies specifically, federal action was almost always in the form of partial preemption, essentially setting a floor for the policy but allowing the states to exceed that minimum. Consequently, states may find themselves perpetually "raising the bar" for policy action. In other words, the policy activism of some states may ultimately have the effect of forcing other states to follow suit in order to comply with federal requirements. Moreover, if partial preemption by the federal government allows states to exceed the federal minimums, then aggressive states may continue to separate themselves through new policy activism, thereby perpetuating a state patchwork of policies and raising the prospect of a cyclical process of federal partial preemption.

A state–federal cycle of policy development is particularly relevant to climate change, which is a long-term problem requiring long-term solutions and technology and market adjustments. The states may play the role of policy innovator for decades by routinely establishing the leading edge of emissions and market regulation, tailored to their individual state circumstances, with the federal govern-

ment periodically stepping in and setting policy floors. In this sense, partial preemption by the federal government in the area of climate change could be a useful and appropriate outcome. In addition, even if the federal government were to act aggressively on climate change policy, its long-term nature suggests that the states' policy innovation and activism will continue to be relevant indefinitely. Even in the face of federal resistance to additional regulation, the states' policy activism is likely to create pressure and set the stage for federal action when political circumstances change and a federal "policy window" opens, thus enabling the policy to be adopted more quickly than if the states had not previously taken action.

Both the RGGI and the California GHG vehicle emissions standards appear poised to have a profound effect on U.S. federal climate change policy, probably shaping and accelerating the federal adoption of mandatory controls on GHG emissions. These initiatives contain the factors for successful vertical diffusion: a push by state champions, policy learning, and a strong spillover effect. Although both policies could lead to horizontal diffusion between states, our case studies suggest that this will not be the critical factor. Also, whereas our case studies show mixed results for the importance of business support, characteristics of both the RGGI and the California initiative indicate that businesses will advocate federal uniformity, probably resulting in partial preemption.

The RGGI and the California initiative have important implications that go beyond the timing of federal policy. Climate policy can take a variety of forms and may include a combination of measures such as market-based programs, taxation, regulatory standards, international agreements, and the research, development, and deployment of technologies. Indeed, any effective response to climate change is likely to include all these measures, although policymakers are likely to emphasize one or more over the others. In this respect, the RGGI and the California vehicle emissions standards may determine the shape of U.S. federal climate policy and thus suggest a disinclination to certain policy approaches. For example, if the state initiatives are to shape federal policy, then one might expect the eventual federal program to use a market approach to large point sources of emissions combined with an emphasis on improving efficiency in the transportation sector. Such an outcome could come at the expense of an alternative approach that focuses on "upstream" carbon pricing attached to fossil fuels coupled with subsidies to promote alternative transportation fuels. These are important trade-offs that state policy precedents certainly influence, though not necessarily in a decisive manner.

For public officials, business representatives, and nongovernment experts establishing national standards for climate policy and GHG emissions regulation, our analysis suggests the following set of actions that they might take:

**The support and encouragement of state champions promoting their own standards as well as broader federal action may have the most impact on vertical policy diffusion.**

**RECOMMENDATION:** States should invest in communications programs to allow state experts to speak in public forums and provide testimony on state policy goals. States should focus on how actions by other states and the federal government can help achieve policy goals while addressing possible inequities associated with a patchwork of state actions. In particular, states should advocate for the preservation of their ability to implement policies that can reduce GHG emissions. A problem as complex as climate change will almost certainly require continuous, long-term innovation. Stifling the states' capacity to contribute to this innovation may in time result in diminished or delayed federal policy action on this issue over the long-term.

**The quick development and implementation of state policies will allow any lessons learned to be used in the federal effort. This may apply to innovative policy designs, the policy design process, and the actual program performance. For the RGGI, the lessons may pertain to similar allocation methods, offset rules, set-aside rules, or an open stakeholder process, and for the auto sector, a federal standard may draw on the extensive technical work done in California.**

**RECOMMENDATION:** States should not delay policy design and implementation work in order to gauge federal policy debates and direction. Rather, state policy action taken today is more likely to inform and shape the federal outcome rather than the other way around, posing a potential advantage for early actors.

**Research and analyses detailing the extent to which the costs and benefits of climate policies spill over state boundaries may generate more enthusiasm for a federal program and are likely to be more effective if married to state advocacy efforts.**

**RECOMMENDATION:** To inform the federal policy debate, states should disseminate analyses, modeling results, forecasts, and actual program data related to their climate policies and programs, particularly in the context of state policy goals and the extent to which states can solve the climate problem.

While horizontal diffusion was not as important as other factors, programs with wider state diffusion were more likely to be adopted at the federal level. Thus, efforts to persuade other states to adopt the RGGI and California standards are likely to increase the chances of a similar federal program. Also, given the prevalence of federal partial preemption as a response to state policy activism, the development of more stringent standards at the state level is likely to lead to more stringent federal standards.

**RECOMMENDATION:** State policies should be designed with a view to interstate cooperation, sharing of information, and the incremental development of multi-state collective action that is tantamount to a national program. Such collective, coordinated action by several states could result in a meaningful and environmentally effective U.S. response to climate change in lieu of federal action.

Finally, some measure of business support is helpful at any level of policy development but is not always critical to vertical diffusion. If the RGGI or the California vehicle emissions standards succeed at resolving industry opposition and/or creating an impetus for policy uniformity through federal action, then these policies stand a greater chance of being adopted or emulated by the federal government.

**RECOMMENDATION:** States should promote and convene business coalitions that share their policy goals in an effort to help design or endorse policies, specifically policies that are suitable to state implementation while also leveraging federal action.

# 1. Introduction

Climate change and concerns about the environmental, economic, and security effects that it may bring have triggered policy responses at the international, national, state, and local levels. As greenhouse gas (GHG) emissions from fossil fuel combustion and other human activities continue to rise, atmospheric concentrations of GHGs increase as well, trapping additional heat from the sun. This warming alters the global climate system, which may significantly damage the global environment, the economy, and human populations (see, e.g., IPCC 2001). To avoid the worst of such impacts, policies are needed to drive near-term reductions in GHG emissions and sustained long-term stabilization of atmospheric GHG concentrations (see, e.g., Hasselman et al. 2003).

Different levels of government have produced an array of policy responses to the threat of climate change. In 1992 the United Nations Framework Convention on Climate Change was ratified by more than 180 countries and eventually gave rise to the Kyoto Protocol, which sets emissions limits and compliance timetables for developed countries. Thirty-four developed countries ratified the Kyoto Protocol, which became international law in 2005.<sup>1</sup> As part of its program to comply with the protocol's emissions reduction targets, the European Union launched a program to cap emissions from industry and allow for the trading of emissions allowances, the so-called cap-and-trade system. The European program marks the most aggressive, mandatory restrictions on GHG emissions to date and the advent of a new market under a global "carbon-constrained economy."

## The Significance of State Climate Policy in the United States

Even though it is a party to the UN Framework Convention on Climate Change, the United States has not ratified the Kyoto Protocol—and, indeed, has rejected it as a policy instrument for mitigating emissions. Instead, at the federal level, the United States has focused on voluntary programs and technology initiatives rather than mandatory emissions limits. The Bush administration increased research and development funding for climate change science and low-carbon technologies and implemented a voluntary policy to slow the growth of GHG emissions. But neither of these initiatives is anticipated to stabilize or reduce emissions at the national level (Pew Center on Global Cli-

mate Change 2005). In Congress, the Climate Stewardship and Innovation Act of 2005, sponsored by Senators John McCain (R-AZ) and Joseph Lieberman (D-CT), failed by a Senate vote of 38 to 60. The Senate did pass a Sense of the Senate resolution, however, calling for mandatory, market-based GHG regulations. In 2006, both houses of Congress submitted several new bills, but none received much attention or debate. Measured in terms of emissions, the U.S. federal effort has been a failure; between 1990 and 2004, net U.S. emissions climbed by approximately 21 percent (U.S. EPA 2006).

While the United States continues to search for a strong federal response to climate change, its role in solving the problem is critical. As the world's largest producer of GHG emissions (23% of global emissions in 2002), the United States could significantly slow the rate of GHG accumulation in the atmosphere just by reducing its own pollution. With the world's largest economy and vast technological capability, the United States could lead the global deployment of clean technologies to reduce emissions in developing countries and encourage sustainable growth. And as a major political force, the United States could exercise leadership to unite developing and developed countries to aggressively address climate change. The intractability of the federal government thus presents a significant challenge to international progress on the issue. That is, a tenable solution to climate change probably is impossible without the United States' participation. In this context, the ability of the U.S. states to experiment with climate policies, build programs and institutions, and offer ideas and knowledge to federal policymakers is vital to forging an adequate, international solution.

Against this backdrop are the climate policy efforts of cities, states, and regions. The two most notable developments are the Regional Greenhouse Gas Initiative (RGGI) in the northeastern states and the GHG emission standards for vehicles in California, often referred to as the Pavley law. The RGGI is the combined effort of ten states (and potentially more) to implement a regional cap-and-trade program for the electricity generation sector.<sup>2</sup> The California vehicle standards require all model year 2016 cars sold in the state to emit 30 percent less GHGs than the model year 2002 cars do. The standards will take effect in 2009, with increasingly stringent requirements leading to the

1. The Kyoto Protocol currently has 175 parties, not including the United States and Australia, which have opposed it and thus are not bound by its terms.

2. The ten RGGI states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

2016 goal. In August 2006, California passed a far-reaching economywide GHG reduction program known as Assembly Bill (AB) 32, or Núñez–Pavley, to which the vehicle standards will be critical. Currently, eleven other states have adopted or are about to adopt the California vehicle emission standards. These regulations will apply to 36 percent of the U.S. new car market, including California.

In addition to these initiatives, more than 320 mayors have pledged to reduce GHG emissions from their cities to 7 percent below 1990 levels by 2012 (the emissions level that the United States would have to achieve if it ratified the Kyoto Protocol). The mayors also have urged the federal government to do the same. In addition, twenty-two states and the District of Columbia passed “renewable portfolio standards” (RPS), requiring utilities to purchase a specific percentage of their power from renewable sources. California and Texas have voluntary greenhouse gas registries in operation, and several states require large emitters to report their GHGs. Four states (Oregon, Massachusetts, New Hampshire, and Washington) have mandatory emissions caps and/or emissions offset requirements for existing or new power generation.

These emerging state climate policies have been championed by a diverse set of leaders and stakeholders from both major political parties. But this does not mean that the states’ climate initiatives are “solutions” to climate change, since by themselves they cannot stabilize GHG concentrations in the atmosphere. Rather, these initiatives are the first steps on a long path to lower emissions and technological changes. They often are designed and promoted as economic development opportunities, which have contributed to a broad base of support (Rabe 2002). When added together, the sum of state climate policies begins to reveal possible options for federal action, with the RGGI and the California standards at the cutting edge. This decentralized, multistate approach to climate policy is common in U.S. policy formation and is similar in some respects to the fragmented, bottom-up approach to carbon trading and other climate efforts now under way in the international arena (Victor, House, and Joy 2005).

With the states currently taking the lead in U.S. climate policy, we wanted to examine whether the two prominent regulations, the RGGI and the California vehicle emission standards,<sup>3</sup> could both initiate and shape an aggressive federal climate policy. We examined past examples of policy diffusion from the states to the federal level,

analyzed the factors that enabled this diffusion, and then considered whether the RGGI and California vehicle emission standards possessed the attributes needed for successful diffusion.

## State Policy Innovation and Diffusion in the U.S. Federal System

The background of this study is the evolving role of the states and their relationship with the federal government. In promoting what he called the “compound republic” in the U.S. Constitution, James Madison observed in the *Federalist Papers* that the federal system contemplated by the founders would check the potential for “usurpations” by dividing public authority among several levels of government. While serving as a check on unlimited government power, the federal system is also touted as a vehicle for changing policy from the “bottom up.” Over a century later, Louis Brandeis observed that states can become the “laboratories of democracy” by testing new ideas and policy proposals, gradually building a record of policy innovation that can be tapped by national officials when the time is ripe (*New State Ice Co. v. Liebmann* 1932). In addition, the states’ use of litigation to induce federal action has been, and continues to be, another means of promoting policy. For example, the recent case of *Massachusetts vs. EPA*<sup>4</sup>, settled by the Supreme Court in favor of the states, is an important milestone in an effort by states to force the federal government to follow suit with strong regulations to address climate change.

The states’ ability to innovate and affect policy in the federalist system is not a panacea, however. In many instances, a federal solution may be both necessary and preferable, based on the specific federal powers granted under the U.S. Constitution and on the efficiency and cost-effectiveness that may be gained under a federal program, as opposed to many states working on the same problem concurrently. Although the federalist system encourages innovation, it also invites inefficiency. State and federal policymakers often must consider the same policy problem at the same time. As various social and economic problems arise, the concern and awareness of the public and the news media will also rise, compelling a search for answers at all levels of government, academia, business, and civil society. Indeed, many of these actors may collaborate. In many cases in which the states appear to be leading, the federal government may in fact be busy at work yet have few or no results to show at the time. The reasons why a federal

3. For the purpose of this study, we focus on only California’s vehicle GHG emission standards. While AB 32 is far more ambitious in attempting to reduce GHGs, the regulations associated with the bill have yet to be promulgated. The vehicle standards, however, are an established rule with a substantial history that can be analyzed to a level of detail comparable to that of the RGGI.

4. *Massachusetts vs. United States Environmental Protection Agency*. In this case the Supreme Court ruled that carbon dioxide is a pollutant under the Clean Air Act. This is important for states as EPA has clear authority to decide whether or not to grant a waiver to California to allow it to implement GHG emissions standards for automobiles.

response requires more time to develop may be valid and include the scale and complexity of the nation and its diverse political interests, as compared with those of a single state.

Even though federal policymakers may work on issues concurrently with state policymakers, political gridlock, the dominance of a certain political ideology, and other macropolitical circumstances at the national level may prevent the federal government's adoption of state policies. Such circumstances increase the importance of state laboratories, as they can serve not only as a source of new policy ideas but also as holding tanks for policies that may not yet be politically feasible at the federal level. Indeed, it has been argued that states function as a policy "balance wheel," with the states acting as an outlet for positive policy initiative during periods when the national government is either mired in gridlock or, with regard to particular issues, limited by the presence of an ideological policy regime. In these cases, the nation itself retains the capacity for policy action through the federal system even when it cannot muster the requisite consensus or resolve problems at the national level (Nathan 2005). In the event that the political winds change, whether owing to a change of the party in power, a natural disaster, a national emergency, or some other exogenous event, the resulting "policy windows" can offer a rapid diffusion of policies that may have been active for years at the state level (Kingdon 1995).

On many issues, the states are often positioned to reach agreement and action on a policy well ahead of national policymakers. Compared with the national policymaking process, the political interests of most states are relatively cohesive and homogenous, thereby enabling them to achieve consensus on policy action more quickly. Again, Madison presciently observed that smaller units of government would be quicker to act and that extending the "sphere" to the federal level would make it more difficult to act in unison, because of the greater number of interests and parties.

The U.S. federal system has always played this role. The constitutional responsibility for providing education, public health and safety, among other basic domestic services, ensures that states and local governments often address emerging public issues and problems in their formative stages. Indeed, the states have served as policy incubators as far back as the nineteenth century, hatching reforms in child labor, public assistance, and workmen's compensa-

tion that were later nationalized during the Progressive Era and the New Deal (Nathan 2005).

Over the past fifty years, structural and political reforms such as reapportionment of legislatures, the growth of professional staffs, and enhanced revenue systems have transformed the states' decision-making processes. As the states became more discerning in implementing the growing array of federal domestic programs, national advocacy groups joined the ranks of business and other traditional interest groups in organizing a state presence (Thomas and Hrebena 1999). Thanks to many of these changes, ambitious state political leaders have become policy activists, often competing with one another to champion the early adoption of many emerging policy ideas, including universal health care, nonsmoking ordinances, and prohibitions on driving while intoxicated. Not all states are equal, however, and those with the most resources and greatest activist tendencies are more likely to undertake the analysis and implementation of complex policies and regulation and consequently have a greater impact on the development of federal policy.

The importance of the states as innovators and incubators of public policy should not be construed to mean that they always lead or that the federal government is always lagging or inactive. On the contrary, in numerous cases the states failed to adequately address an issue, and so the federal government stepped in. For example, the federal Clean Water Act of 1972 was partly a reaction to the slow progress of states to protect and remediate waterways over the previous several decades (Copeland 1999). Emerging state efforts may also set unsound or inefficient precedents as well as low expectations for subsequent federal policies, owing to the limitations in the states' jurisdiction, administrative capacity, and historical experience (Keeler 2004).

Against this complex backdrop, we analyzed a number of specific policy examples in which the states were active and appeared to have significant influence on subsequent federal policymaking. We looked for factors that supported this *vertical diffusion*, meaning policy diffusion from the state to the federal level. Vertical diffusion differs from *horizontal diffusion*, which refers to policies diffusing from one state to another. We also discuss horizontal diffusion in our analysis. Building on these examples, we then turn our attention to the recent phenomenon of the states' policymaking in regard to climate change and GHG emissions reductions.

## 2. Study Methodology

First we examined thirteen cases of state policies and their vertical diffusion (or lack thereof) to the federal level. Table 1 summarizes the case studies, which are divided into successful instances of diffusion (eleven cases) and unsuccessful instances (two cases). The successful cases are then divided into two subcategories: environment/energy policies (six cases) and nonenvironment/energy policies (five cases).

Each case study is described fully in the appendix: the social, economic, or environmental problem being addressed; a chronological accounting of events; the drivers for change; the principal stakeholders; the level of communication and cooperation between the states and the federal government; the action by the states; and the subsequent federal policy outcome.

The federal policies that were ultimately adopted reflect a range of federal roles, obligations, and authority vis-à-vis the states, including the following:

- *Full preemption*, in which the federal government issues its own policies while simultaneously prohibiting the states from issuing their own.
- *Partial preemption*, in which the federal government sets minimum standards that the states must meet but are permitted to exceed under certain circumstances. This widely adopted strategy provides for the combination of a national policy floor and explicit authority for the states to pursue stronger regulations if they find them to be necessary. In some sense, this approach strikes a middle political ground by ensuring the nationalization of state initiatives while still accommodating the diversity of the federal system.
- *Mandate*, in which the federal government requires the states to carry out a specific policy.
- *Grants, technical assistance, and/or guidance*, in which the federal government provides funding and/or expertise to help the states carry out their own policies, usually within specified federal guidelines. Federal grants can be used to encourage a broader state adoption of policies, with various conditions to ensure that they have similar policy goals and benefits. Although these grants are technically voluntary, the states rarely turn down an offer of federal assistance unless the application processes and conditions are excessively cumbersome.

- *No action*, in which the federal government takes no action and leaves the matter to the states.

We selected these particular case studies not by random but to explore how the federal government adopts state policy initiatives. We also chose these cases in accordance with our expertise and general knowledge of the nature and chronology of policymaking in a variety of policy areas. The eleven cases of successful vertical policy diffusion were selected deliberately for their vertical diffusion. Then, to provide some additional perspective and means of comparison, we examined two cases that did not culminate in vertical diffusion and that, again, were based primarily on our expertise and familiarity with historical events.

Because our choice of case studies was not based on random statistical sampling, they are not fully representative of the universe of state and federal policymaking, and they do contain the authors' biases. The point of this study is not, however, to identify broad statistical trends but to identify the factors that are present in successful vertical policy diffusion. In order to compare these factors, we used a simple scoring system based on our subjective views of their significance in each case study. In other words, after we found the factors leading to vertical diffusion, we scored them for each case study as "very significant/relevant," "somewhat significant/relevant," or "not significant/relevant." We then charted the frequency of the various factors' significance.

Two cases of unsuccessful vertical diffusion are also reviewed. These cases are not scored, however, because the scoring method is framed specifically by factors that enable diffusion to occur. In other words, the successful diffusion of a policy is a necessary precondition for our methodology to apply.

After we identify and discuss the factors for successful diffusion (section 3), we turn to the RGGI and California programs to determine whether they exhibit these factors and therefore whether these policies will diffuse to the federal government (section 4). Our general discussion and conclusions end the report (section 5).

TABLE 1. SUMMARY OF CASE STUDIES

POLICY	STATE ACTION	FEDERAL OUTCOME	SUMMARY POINTS
<b>Successful Diffusion: Environment/Energy Policies</b>			
<b>Acid rain and regulation of sulfur dioxide (SO<sub>2</sub>) emissions</b>	Mandatory reduction requirements for SO <sub>2</sub> from power plants were established in the mid-1980s, with a second wave of rule making in and around 2000.	Partial preemption. The federal acid rain program passed in 1990 and set a regulatory floor that the states could exceed. The federal Clean Air Interstate Rule (CAIR), issued in 2005, increases stringency in the eastern United States.	Beginning in 1970 the federal government regulated SO <sub>2</sub> emissions in tandem with the states, through new source performance standards and SIPs. However, as the problem of acid rain gained prominence in the early 1980s, the federal government failed to take further action, despite tension between the midwestern and northeastern states and between the United States and Canada. With legislation continuing to stall at the federal level, several states enacted regulations that significantly reduced SO <sub>2</sub> emissions within short periods of time. These regulations proved that such emissions cuts were feasible and attainable, undercutting political arguments to the contrary. These policies were evidence of successful pollution control. In 1990, a new administration was able to enact legislation to cut SO <sub>2</sub> significantly. Further action by the states in the late 1990s called attention to the fact that the CAAA of 1990 was not stringent enough to adequately address acid rain and other SO <sub>2</sub> issues. In 2005, the federal government implemented CAIR to achieve deeper reductions.
<b>Appliance efficiency standards</b>	In the 1970s several states issued varying appliance efficiency standards. This trend was repeated in the late 1990s and 2000s when new standards were issued for nonregulated products.	Partial preemption. Federal legislation set national uniform efficiency standards in the mid-1980s that allowed states to issue stricter standards with a waiver or standards for products not covered by the federal government. Several waves of standards passed subsequently, most recently in 2005.	State initiatives in the 1970s to control energy consumption through appliance efficiency standards provided for significant energy savings that otherwise might have been delayed or possibly never attained. An individual state's ability to overcome stakeholder opposition proved that standards were a politically feasible means of achieving such savings. The patchwork of dissimilar standards among states created an incentive for manufacturers to change their position and pursue nationwide uniform standards, which they had traditionally opposed. In the 1980s, this support, combined with that of state, environmental, and consumer advocates, provided a push for national standards that overwhelmed the administration's staunch opposition. This pattern was repeated in recent years, with the states issuing new standards for unregulated products and eventually catalyzing a new round of national standards.
<b>Asbestos in schools</b>	Beginning in the 1970s, several states implemented asbestos removal programs for schools, though the standards varied considerably.	Mandate. At first, federal assistance was provided to aid the states in their asbestos inspection efforts. But in 1986, federal inspection and removal standards set a minimum level of regulation, which they allowed the states to exceed.	The asbestos-in-schools program was informed by state leadership before the federal statute. Although not characterized by any strong spillover effect requiring policy nationalization, the states' actions nonetheless seeded interest at the national level and prompted their emulation by other state and local governments. Notwithstanding the cost of federal mandates, school associations acquiesced in or supported federal standards to provide political cover from more aggressive local constituencies, such as Parent-Teacher Associations, demanding more aggressive action than was required or warranted under the new law.
<b>Nitrogen oxide (NO<sub>x</sub>) emissions trading</b>	A state-run regional cap-and-trade program was implemented with technical and legal support from the federal government.	Partial preemption with technical assistance and guidance. State-federal partnership launched the NO <sub>x</sub> SIP Call Program, effectively expanding the state-led effort into a super-regional system.	The federal government was instrumental in initiating policies to reduce ozone pollution, first by setting air quality standards and then by establishing the Ozone Transport Commission to study the problem's interregional nature. But the main approach to reducing ozone pollution—a cap-and-trade system for NO <sub>x</sub> emissions—was first implemented by a group of states, with the federal government offering technical support. Efforts to control NO <sub>x</sub> emissions more broadly were stymied by local political and economic interests, but the leading work by the northeastern and mid-Atlantic states had two important effects: (1) it fractured the industry's lobbying effort to prevent greater regulation of NO <sub>x</sub> emissions, and (2) it encouraged the U.S. EPA's efforts to establish a superregional trading program. As a result, a state-based cap-and-trade program evolved into a federal program with similar features.
<b>Organic farming</b>	Private and state standards were adopted to assist the development of an organic agriculture market.	Partial preemption. The federal government established uniform, nationwide organic standards, which the states and private entities may exceed.	Although organic farming was not a new concept, its increasing popularity in the 1960s and 1970s resulted in the need for standards and labels to differentiate organic products from those grown with synthetic fertilizers and pesticides. Farmers' associations and other third parties created organic certification and standards to meet this need. In the 1970s the states became involved by providing statewide organic standards but left enforcement to third-party certifiers. This trend changed in the 1980s when some states issued standards and required farmers to obtain certification from state agencies. The resulting patchwork of standards issued and enforced by more than fifty third-party organizations and states caused confusion among consumers and concern among organic farmers. As a result, Congress passed the Organic Foods Production Act in 1990, and the USDA promulgated minimum standards after a long and contentious rule-making process lasting for twelve years.
<b>Vehicle emissions standards</b>	California issued the nation's first vehicle emissions standards, whose stringency has continued to increase over the last fifty years. After 1990, other states adopted California's standards.	Partial preemption. Federal standards originally gave only California the privilege of issuing stricter standards but later allowed other states to adopt California's standards.	California issued the nation's first vehicle emission standards to combat air pollution within its borders. The political will for action in California allowed the state to overcome industry opposition and uncertainties about emission control costs. The federal government indirectly supported the state by funding research. As urban air pollution quickly spread to become a national problem, California's early action allowed the federal government to adopt similar regulations with more certainty. As the pollution problem became more severe, California pushed hard to maintain its regulatory autonomy, despite industry stakeholders' opposition to multiple standards. Ultimately they reached a compromise that allowed California to keep its regulatory power to implement stricter standards and permitted other states to adopt California's standards.



TABLE 1. SUMMARY OF CASE STUDIES, *continued*

POLICY	STATE ACTION	FEDERAL OUTCOME	SUMMARY POINTS
<b>Successful Diffusion: Nonenvironment/Energy Policies</b>			
<b>Divestment from South Africa and Burma</b>	In the 1980s, almost two hundred local and state governments throughout the United States created selective purchasing and divestment laws, targeted at corporations doing business with the apartheid regime in South Africa. In the late 1990s, Massachusetts established similar programs against Burma.	South Africa: Full preemption. A federal statute accomplished the same goal as that of many state programs.  Burma: Full preemption. A federal executive order accomplished the same goal as that of the Massachusetts program.	South Africa: State and localities divested funds out of companies doing business with South Africa. In the mid-1980s, public concern about the Reagan administration's policy toward South Africa was rapidly translated into political action by a broad-based anti-apartheid movement across the United States, which ultimately culminated in the passage of legislation prohibiting U.S. trade with and imposing economic sanctions on South Africa. The legislation passed over President Ronald Reagan's veto in 1986.  Burma: As in the case of South Africa, state and local ordinances called for preferred purchasing policies to avoid working with companies doing business in Burma. The Massachusetts ordinance was eventually invalidated by the U.S. Supreme Court because it was rendered moot by President Bill Clinton's executive order.
<b>Education testing</b>	By 2000, more than forty-eight states had issued academic performance standards, which differed considerably in their requirements and rigor.	Mandate requiring the states to comply with federal guidelines for academic achievement standards.	State programs stimulated federal interest, which drew on state policy designs for the national program. The federal education program (No Child Left Behind), however, went above and beyond that of the states: although the states had high standards, they did not hold themselves accountable for not reaching their goals. NCLB has serious (primarily financial) consequences for not reaching its educational standards. But even though federal funding for education has increased substantially, the NCLB has imposed on the states a greater fiscal burden to finance the costs of reform.
<b>Enterprise zones</b>	The states offered differing packages of tax incentives, grants, fast-track permitting, and other assistance as part of their economic development and poverty alleviation programs.	Block grants and incentives produced a tiered framework of zone designations in which tax incentives and grants would be focused to aid economic development in the states.	State policies instilled an interest in enterprise zones by a broad coalition of state, business, and antipoverty groups, with national officials coming to a consensus much later. While state programs never demonstrated positive impacts as advertised, nonetheless this approach had been thoroughly developed and attained bipartisan agreement at the federal level after riots in Los Angeles opened a critical political window. Pressed for a concrete response, officials from both political parties were able to readily adopt a policy that had gained widespread support, based on what was advertised as "successful" policies in the states. There are now more than three thousand enterprise zones in forty-seven states.
<b>Gun control laws</b>	The states issued gun control laws of varying severity throughout the 1980s.	Partial preemption. Federal standards permit states to issue rules that exceed the federal government's minimum thresholds.	The passage of the Brady bill was prompted by national political forces, most notably the election of a Democratic president anxious to promote new policy ideas with a Democratic Congress. But the states' innovations played a pivotal role in placing waiting periods and background checks on the national agenda. State leaders showed that such programs were feasible but would have little effect without uniform national implementation. State policy leaders were thus instrumental in gaining passage of the legislation.
<b>Welfare reform</b>	With permission from the federal government, several states experimented with benefit limits, work requirements, and other reforms of the welfare program in the late 1980s and 1990s.	Block grants with mandates. Federal welfare standards were abolished, and capped block grants were instituted, with restrictions connected to their use.	In 1996, Congress passed a major reform of the nation's welfare programs. The new program swept away the old open-ended federal commitment providing an entitlement to all eligible families and replaced it with a capped grant to the states. Not only was the individual entitlement eliminated, but the states were required to institute work requirements for beneficiaries as well as five-year time limits, among many other federal mandates accompanying this so-called block grant. Coming on the heels of major political gridlock between President Clinton and the Republicans controlling Congress, the passage of such a major reform surprised many observers. Moreover, the states' acceptance of a funding cap on a previously open-ended federal grant was surprising as well. When viewed against the backdrop of earlier policy history and the states' own extensive experimentation, the stage had clearly been set for reform a number of years earlier, at both the national and state levels.
<b>Failure to diffuse</b>			
<b>Balanced-budget amendment</b>	Forty-eight states have balanced-budget requirements, with thirty-five being mandated in the states' constitutions. Thirty-two state legislatures passed resolutions asking the Congress to consider a balanced-budget amendment.	No action. Balanced-budget restrictions are periodically debated in Congress, but they do not gain traction and thus disappear from the federal agenda.	Although the federal government has recorded budget deficits for most of the past thirty-five years, federal decision makers have rejected balanced-budget amendments to the constitution. Unlike the states, a balance requirement was viewed as undermining the unique role played by federal budget in stabilizing the economy during recessions and possibly delaying expeditious national responses to crises and emergencies.
<b>Land-use planning</b>	The states issued innovative state and regional planning laws in the 1970s and again in the 2000s that took planning authority away from localities.	No action. Land-use planning has been debated in Congress but remains the purview of the states.	Land-use planning originated at the community level to deal with community issues of land-use compatibility. As the adverse effects of land development became regional in scope, the states began to assert greater control of their land use, through either direct intervention or the creation of regional and statewide planning authorities. In the early 1970s the federal government tried to encourage these state developments through legislation that would provide funding for states to implement statewide plans. But these attempts failed, primarily because of opposition and the fear of property rights infringement and a perceived loss of local decision making to the federal government. Current state-planning initiatives have gathered steam, and more states are conducting statewide land-use plans than ever before. But no comparable federal efforts since the 1970s have gathered any political momentum.

## 3. Factors for Successful Diffusion

Table 2 presents the eleven cases of successful vertical diffusion with reference to the seven factors that we identified as being potentially important to the diffusion process. The factors were derived from observed patterns and trends apparent throughout the cases. We used a qualitative scoring system to gauge the significance or relevance of each factor to the successful diffusion of each policy. Within a similar temporal framework throughout the analysis, we determined which factors were most important at the time of the diffusion from state to federal, that is, the transition of a policy from state to federal implementation. The qualitative scores in table 2 were converted to numerical scores, whose frequencies were then tabulated (figure 1) and averaged (table 3) in order to rank the factors across all eleven cases. We used this same framework to compare and contrast the cases regarding environment/energy versus nonenvironment/energy.

The seven factors we analyzed are as follows. Because we chose to analyze cases that had a specific outcome—successful vertical diffusion—the factors we identified and evaluated are framed in terms of their significance or relevance to that outcome. For the qualitative scoring, particularly for the cost data and business support factors, our evaluations sometimes led to counterintuitive results.

### 1. Policy learning

*Policy learning* refers to the notion that states serve as “policy laboratories” where innovative ideas are tested, refined, and proved. The significance or relevance of this factor to vertical diffusion relies on the extent to which state action is viewed as a powerful example and, as a result, quells federal policymakers’ doubts or concerns about whether a given policy approach is workable.

### 2. Cost data

Policies often are blocked because of concerns about cost. This factor gauges the extent to which empirical data on the cost of a state policy to business, consumers, taxpayers, other groups, or the economy alleviated concerns or circumvented hurdles at the federal level. In other words, this factor determines whether the cost data undermined the argument that federal action in a given policy area was too expensive. Our scoring for this factor was not intended to signify whether or not the cost of a policy was an issue in the debate. In most cases, cost is a prominent issue.

### 3. Spillover effect

Many social, economic, and environmental issues are not confined to the geographic borders and local interests of an individual state. Consequently, a state acting alone often cannot adequately address a problem and therefore achieve its policy goals. In addition, the actions of an individual state can be undermined by the inaction of other states. As a result, both horizontal and vertical diffusion may be desirable to the state(s) that is championing a certain policy. Furthermore, state policy initiatives trigger powerful equity arguments: as more states adopt a policy, the failure of all states to adopt the policy comes to be viewed as promoting the inequitable treatment of citizens or other entities based solely on their state of residence. State policy initiatives may reach a “tipping point” at which the policy benefits are perceived to constitute a national minimum standard or even entitlement (Posner 1998). This category measures the presence and significance of the spillover effect, or the extent to which the perceived benefits and costs of state policies cross over state lines to other states, the nation, or even other nations.

### 4. Horizontal diffusion

Some policies diffuse horizontally from one state to another before diffusing vertically. This category measures two aspects of horizontal diffusion, one quantitative and one qualitative, and gives them equal weight in scoring. First, we measured the prevalence of horizontal diffusion along three tiers: high diffusion (twenty-six or more states), moderate diffusion (six to twenty-five states), or low diffusion (one to five states). We then assessed the nature and importance of horizontal diffusion to the subsequent federal policy decision, recognizing that some states have more influence over federal policymaking than others do, primarily because of the size of their economies, markets, population, and representation in the federal government.

### 5. Federal assistance to states

The federal government may provide funding and/or technical assistance to states as they develop new and innovative policies. As a result, state–federal relationships are forged, and the federal government becomes indirectly invested in the successful outcome of the policy. This factor gauges the significance of such assistance to fostering vertical diffusion.

## 6. Business support for federal action

Business interests tend to have considerable and perhaps preeminent influence on policymaking in the United States. The business community is diverse, however, and different segments may have wide-ranging interests that align with or diverge from a given policy.

This factor measures two aspects of business's position on vertical policy diffusion. First, we considered the degree to which business *in general* was either supportive of or indifferent to the vertical diffusion of a policy. In other words, we tried to establish whether there was any business support and, if so, whether that support outweighed business opposition. Second, we considered whether a supportive stance by any segment of the business community was material to the outcome of a given policy; that is, did any amount of business support even matter? Our scoring of this factor was not intended to signify whether or not there was strong business *opposition* for a given policy. Regardless of business opposition, which almost always exists in some measure, all the cases we analyzed resulted in successful vertical diffusion, so *de facto*, business opposition was not a critical or decisive issue.

## 7. Push for diffusion by state champions

Officials such as governors, legislators, or agency staff from states that have implemented cutting-edge policies often act as champions for the federal adoption of these policies.

This category measures the degree of influence that state officials had on the vertical diffusion of a given policy.

The qualitative scores in table 2 were converted to numeric scores by assigning the following values:

Very significant / relevant = 1

Somewhat significant / relevant = 0.5

Not significant / relevant = 0

The frequency of the scores was then tabulated across the eleven cases, resulting in a quantitative ranking of the significance of the seven factors (figure 1). The scores also were averaged across both cases and types of cases (environment/energy versus nonenvironment/energy) in order to compare the types (table 3). Note that conversions like these do not imply precision in the interpretation of the numerical values; rather, the following analyses are provided only as a means of evaluating the factors' relative significance.

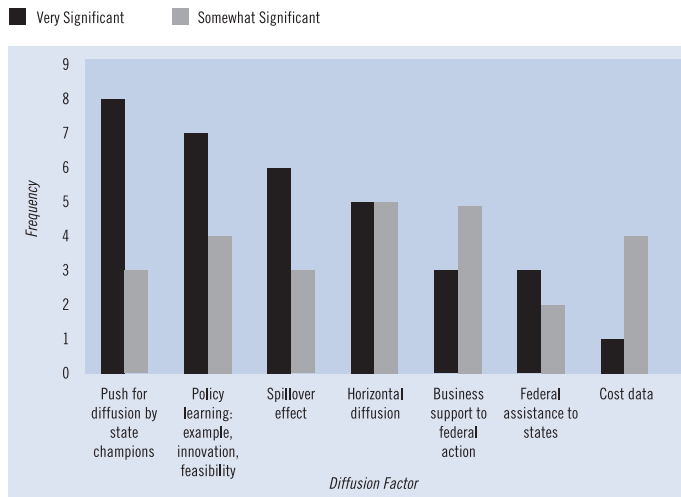
The state officials' push for federal action was the most frequently found factor driving vertical policy diffusion. It was a significant factor in eight of the eleven cases and a somewhat significant factor in the remaining three. The state champions were important in the environment/energy cases as well as the nonenvironment/energy cases, in which they were a significant factor across the board. In the

**TABLE 2. FACTORS FOR SUCCESSFUL VERTICAL POLICY DIFFUSION, QUALITATIVE SCORES**

Key: ● = very significant /relevant   ● = somewhat significant /relevant   ○ = not significant /relevant

POLICY	POLICY LEARNING: EXAMPLE, INNOVATION, FEASIBILITY	COST DATA	SPILLOVER EFFECT	HORIZONTAL DIFFUSION	FEDERAL ASSISTANCE TO STATES	BUSINESS SUPPORT FOR FEDERAL ACTION	PUSH FOR DIFFUSION BY STATE CHAMPIONS
<b>Environment/Energy Policies</b>							
Acid rain and regulation of sulfur dioxide emissions	●	●	●	●	○	○	●
Appliance efficiency standards	●	●	●	●	○	●	●
Asbestos in schools	●	○	○	●	●	●	●
Nitrogen oxide (NO <sub>x</sub> ) emissions trading	●	○	●	●	●	●	●
Organic farming	●	○	●	●	○	●	●
Vehicle emissions standards	●	○	●	○	●	●	●
<b>Nonenvironment/Energy Policies</b>							
Divestment from South Africa and Burma	●	●	●	●	○	●	●
Education testing	●	○	○	●	●	●	●
Enterprise zones	●	○	●	●	○	●	●
Gun control laws	●	●	●	●	○	○	●
Welfare reform	●	●	●	●	●	○	●

**FIGURE 1. FREQUENCY OF OCCURRENCES OF VERY SIGNIFICANT AND SOMEWHAT SIGNIFICANT SCORES ACROSS SEVEN VERTICAL POLICY DIFFUSION FACTORS**



case of divestment from South Africa and Burma, the state champions were the only very significant factor.

State officials may have technical, political, and/or moral reasons to press for federal adoption of their policies. Indeed, without expansion to the federal level, state policies may falter, owing to competition with other states with conflicting policies or weaker commitments to the policy goal. For instance, states with strong gun control laws cannot ensure the integrity of their programs, as they may be undermined by the importation of guns purchased in states with weaker regulations. Similarly, states with strong air pollution laws cannot achieve air quality goals unless upwind states also have pollution controls. Or states may view federal action to be more efficient and cost-effective.

Other motivations by state champions may be political, such as gaining recognition and propelling a state official onto the national stage and possibly into higher office (our case studies do not explore this possibility). Some motivations may be based on values and morality. For example, the principal factor in the case of divestment from South

Africa and Burma was the state officials' pressure on the federal government to punish foreign regimes that were perceived to be oppressive. Widely shared national values thus made the appeal of these state policies gain traction at the federal level.

The second most important factor emerging from this analysis was policy learning. It appeared as a significant factor in seven of eleven cases, as a somewhat significant factor in the remaining four, and was strong in both environment/energy and nonenvironment/energy cases. State policies often demonstrated that a policy could both be implemented and be effective, thereby carrying the power of example. For instance, organic farming standards were developed in the absence of any federal action and over time provided a powerful example of how best to establish such standards at the federal level. State gun control laws also proved that within their respective state boundaries, provisions like waiting periods and background checks not only were feasible but actually prevented thousands of illegal gun sales. But as we note later in our discussion of state policies that failed to diffuse, the existence of policies at the state level, even if broadly adopted, does not necessarily guarantee their adoption by the federal government without a compelling need for federal action.

The environment/energy cases scored notably higher on the importance of the spillover effect than did the nonenvironment/energy cases. In the latter group, given the nature of the policy problem, spillover and the weakening of policies as a consequence of inaction by neighboring states were less severe or not evident. For many policies, however, the economies of those states that took action may incur costs that could prompt businesses to relocate to states with weaker regulations. Accordingly, in many of our cases, state policy leaders urged the national adoption of the policy in order to ensure uniformity, to place a floor under other states, and, they hoped, to resolve the problem.

Despite the importance of policy learning, a closely related factor—cost data provided by the states—emerged as the least important factor in all the cases. This does not mean that the cost of a policy was a minor issue. On the contrary,

**TABLE 3. AVERAGE AGGREGATE SCORES OF SEVEN DIFFUSIONS FACTORS FOR ALL CASES AND BY TYPE OF CASE**

	FACTOR	OVERALL AVERAGE	ENVIRONMENT/ENERGY AVERAGE	NONENVIRONMENT/ENERGY AVERAGE
<b>Most significant</b>	Push for diffusion by state champions	0.9	0.8	1.0
	Policy learning: example, innovation, feasibility	0.8	0.9	0.7
	Spillover effect	0.7	0.8	0.5
<b>Intermediate</b>	Horizontal diffusion	0.7	0.6	0.8
	Business support for federal action	0.5	0.6	0.4
<b>Least significant</b>	Federal assistance to states	0.4	0.4	0.3
	Cost data	0.3	0.2	0.4
	<i>Mean:</i>	0.6	0.6	0.6

many environmental policies, for example, are mired in debates over costs and benefits. In the chronological frame of our analysis, there were only a few cases in which the states took action, thereby producing cost data, which in turn helped propel federal action. Our analysis, however, was limited by the availability of documented examples of states' empirical cost data and their influence on a policy's vertical diffusion. Accordingly, any conclusions made regarding this factor should keep these limits in mind.

The significance of cost data scored low for both environment/energy policies and nonenvironment/energy policies, but possibly for different reasons. In the case of environment/energy policies, the relatively short period between state innovation and vertical diffusion may have preempted the production and analysis of long-term data sets. In the case of nonenvironment/energy policies, such as gun control laws, the cost of the policy may have been irrelevant. Ironically, in one nonenvironment/energy case in which the state's actions did produce economic data—enterprise zones—the experiences with the policy were mixed, and yet the policy diffused to the federal level anyway.

The horizontal diffusion of policies from state to state scored as an intermediate factor that was very significant in five cases and somewhat significant in another five. The factor appears to have been more important to nonenvironment/energy policies than to environment/energy policies. Across the board, horizontal diffusion tended to be more important in cases in which spillover was not significant. This may suggest that in the absence of a strong spillover effect, horizontal diffusion must be greater and include politically important states in order to catalyze vertical diffusion. In the case of asbestos in schools, for example, the issue did not involve spillover, but the policy of removing asbestos was popular and spread widely from state to state. Not surprisingly, this widespread horizontal diffusion helped set the stage for federal action. Conversely, when the spillover effect is strong, a strong push by just a few state champions may be sufficient to trigger federal action, even though the policy has not spread significantly from state to state. The lack of political will or a policy window at the federal level may stall the vertical diffusion of policies with significant spillover, thus allowing more time for such innovations to diffuse horizontally to other states. This was the case with organic farming standards.

The issue of business support scored in the low part of the intermediate range, having been very significant in three cases and somewhat significant in five. The factor was less significant for nonenvironment/energy policies than for environment/energy policies. In those cases in which business support for federal action was a significant factor, such as appliance efficiency standards and the regulation of NO<sub>x</sub> emissions, the driving motivation was uniformity of standards; that is, the value of federal action was in eliminating

a patchwork of varying state rules that would either drive up compliance costs or create competitive advantages. This was not a major factor across the board, however, which may suggest that (1) businesses affected by a particular policy will always remain in opposition and not seek to craft federal solutions, or (2) depending on the policy, a patchwork of state rules does not necessarily threaten or motivate prominent and politically influential business interests.

The last factor—federal assistance to states—scored low on all cases and generally was not a significant factor in either of the classes of case studies. The factor was very significant in three cases and somewhat significant in only two others. In a few instances, the cooperative help of the federal government appears to have eased the way for federal policy action, for example, in the cases of NO<sub>x</sub> emissions controls, vehicle emissions standards, and welfare reform. In most of the cases reviewed in this analysis, the states proved to have adequate capacity and clear jurisdiction to develop new and innovative policies without federal assistance and thus acted on their own. In those cases in which federal assistance was a significant factor, the policies were based on existing state–federal relationships, as in welfare reform and NO<sub>x</sub>. The original 1961 California vehicle standards are one exception in which a state initially did not have enough capacity at the time to deal with the problem, so federal funding for better understanding air pollution was important.

### **Policies That Failed to Diffuse Vertically— Land-Use Planning and the Balanced-Budget Amendment**

Recognizing that this study deliberately focuses on policies that succeeded in diffusing vertically and therefore contains author bias, we also considered two policies that failed to diffuse, as a test of the veracity of our findings about the seven factors. Because these two cases did not diffuse vertically, the same temporal guidelines and scoring techniques for successful diffusion do not apply. Nevertheless, we compared the factors in these cases at the point that the federal debate was at its peak.

In policy debates on both land-use planning and the balanced-budget amendment, policy learning based on state action was significant in elevating the issues to the federal agenda. The federal decision makers had a wealth of information. But the states' experiences showed that a balanced-budget amendment might not solve the problem of chronic deficits, owing to essential differences between federal and state fiscal policy environments, loopholes, and political tactics to circumvent budgetary controls. Thus, policy learning may have worked against vertical diffusion. This instance shows that depending on the nature of the policy problem, vertical diffusion may not always be the best outcome. In the case of land-use

planning, the states sometimes succeeded in controlling growth, so one might expect these successes to be a significant factor in driving vertical diffusion. Indeed, congressional champions for a national land-use policy used the example of the states to promote federal action, but this was not enough.

The main reason why these two policies failed to diffuse vertically pertains to the nature of the problems they sought to address. In the 1970s, sprawl was primarily a local or regional problem in just a few fast-growing states. A national land-use policy was therefore seen as inappropriate for an issue that for decades had been the purview of municipalities and just recently had been elevated to the state level. The failure of the balanced-budget amendment at the federal level was recognition of the state and federal governments' vastly different roles in fiscal policy.

Neither of the failure cases involved the spillover effect. That is, the nature of land-use and budget problems generally did not cross over into other states. Given this lack of spillover, we might look to horizontal diffusion as the key to vertical diffusion. The balanced-budget amendment had the highest prevalence of horizontal diffusion of any policy examined in this study, with forty-eight states adopting such a measure before it collapsed at the congressional finish line. Consequently, the broad state adoption of a policy is not a sure trigger for federal action.

It is notable that both failure cases did have relatively strong support from state champions. Although this support was not so great as for the success cases, it does demonstrate that without other policy elements, a push by individual champions is not enough to diffuse policies from the states to the federal government.

## 4. The RGGI, California Vehicle Standards, and Factors for Diffusion

Having analyzed cases of successful (and unsuccessful) vertical policy diffusion and the factors driving this diffusion, we now turn to two emerging state policies that address climate change and reduce GHG emissions: the RGGI and the California vehicle standards. We review the history, design, and prospects for the vertical diffusion of these policies, and we apply the vertical diffusion factors described in section 3 to determine whether or not these policies might accelerate or catalyze similar policy action on the federal level.

### The Regional Greenhouse Gas Initiative (RGGI)

In April 2003, New York Governor George Pataki wrote to the governors of ten northeastern states, from Maine to Maryland, asking for their participation in constructing a regional cap-and-trade program to regulate CO<sub>2</sub> emissions from electric power plants. By mid-summer the governors of Connecticut, Delaware, Massachusetts, Maine, New Hampshire, New Jersey, Rhode Island, Maine, and Vermont accepted the invitation, submitted feedback on the proposal, and began formal discussions that evolved into the RGGI. In addition to these states, California, Maryland, Pennsylvania, the District of Columbia, the Canadian province of New Brunswick, and the secretariat of the eastern Canadian premiers participated as observers to the RGGI process.<sup>5</sup>

Based on work by a staff-level working group and building on inputs from stakeholders as well as an expert resource panel, state energy and environment agency staff negotiated the RGGI for two and a half years. In August 2005 a framework policy proposal was released publicly.

Private companies and others offered numerous opinions about the proposal. On the supportive side, companies commented on the opportunity to improve efficiency and generally favored the states' effort to tackle a difficult environmental problem. Many companies also offered detailed suggestions about the provisions of the proposal, ranging from methods of allocating the allowances to the structure of emissions offsets. The comments of those companies that opposed the proposal concentrated on the projected costs (noting, for example, that energy prices in the Northeast already were high and that any added cost from a state-based climate change program was not acceptable).

The heads of the state agencies continued to negotiate, and they reached an agreement in December 2005, with seven of the nine original states signing on. Massachusetts and Rhode Island did not support the final agreement, citing economic costs as a leading factor in their decision to reject the final proposal, as well as the political concerns of key constituencies opposed to state regulation for CO<sub>2</sub>. The governors of the seven states signed a memorandum of understanding (MOU), which set the framework of the program.

A more detailed model rule was completed in August 2006 after an extensive period of public comment. The model rule serves as the foundation for all signatory state regulations. The signatory states then entered an implementation phase, during which each state must formally adopt the model rule through regulatory or legislative measures (as appropriate to each state) by no later than the end of 2008. The trading program then begins on January 1, 2009. The states of Massachusetts, Rhode Island and Maryland will officially join the program prior to its start.

The RGGI states undertook this regional approach in the absence of comparable federal action in order to demonstrate state leadership on climate change and to make the Northeast a leader in low-carbon technology development. The ten states represent 10.3 percent of the nation's total CO<sub>2</sub> emissions. Electricity generation accounts for 24.2 percent of the ten states' total CO<sub>2</sub> emissions, second only to transportation (CAIT 2007).

### What RGGI will do

The RGGI MOU and model rule establish a regionwide cap on CO<sub>2</sub> emissions from electricity generation units at roughly 1990 emissions levels, or about 187 million tons beginning in 2009.<sup>6</sup> Each state is allotted a share of emissions allowances under the cap, based on several factors, including historic emissions and potential emissions growth. Beginning in 2015 the cap will be reduced by 2.5 percent annually, resulting in a 10 percent cut in emissions in 2018.

Emissions allowances will be allocated to regulated sources at the discretion of the individual states, but each state must set aside at least 25 percent of its allowances for stra-

5. While these other states were observers to the RGGI process, they did not participate in all meetings—and in fact, over time, a core group of nine states worked on the development of the agreement with little input from the observer group.

6. The size of the cap is likely to change if new states join the initiative, so these numbers represent the current parties to the RGGI.

tegic energy needs or consumer-benefit programs such as end-use efficiency measures and renewable energy development. Starting in 2009 and at the end of each three-year compliance period, the allowances of each regulated source must be equal to its CO<sub>2</sub> emissions. These sources can buy, sell, bank, and trade their allowances to minimize compliance costs.

The RGGI also contains a flexible mechanism that permits the use of approved offset credits for a portion of compliance. Initially, to ensure the integrity of their programs, sources may use offsets for only up to 3.3 percent of their compliance regarding projects located within the RGGI region or coming from other states that have signed an MOU with the RGGI states. After a certain price threshold is crossed (if the price stays above a set level for twelve consecutive months), the sources may use more offsets for compliance. Then, after they cross a second price threshold, they will be permitted to use international allowances and credits from the European Union (EU) and Kyoto Protocol mechanisms, along with RGGI offset credits, for up to 10 percent of compliance. In addition, the RGGI will recognize any early emissions reductions by regulated sources that commence after the signing of the MOU and before the launch of the program in 2009.

The RGGI program will be administered jointly by the participating states. A new regional organization will serve as a technical assistance body to track emissions and allowances within the program and also to provide technical support to RGGI states on the development and implementation of offset standards and registration. The participating states will be responsible for enforcing and implementing the RGGI in accordance with the model rule.

The program will be reviewed and monitored to determine its effectiveness and integrity over time. Starting in 2006, potential emissions “leakage”<sup>7</sup> to states outside the RGGI region will be analyzed. If the level of leakage is judged to be significant, the participating states will be authorized to pursue appropriate measures to reduce it. The reliability of electricity will be monitored as well. In 2012, the entire RGGI program will undergo a comprehensive review, including whether or not further emissions reductions beyond 2018 are warranted.

Environmental advocates have endorsed the RGGI process, and many have called for a more stringent emissions cap, the allocation of fewer allowances without charge, and a cap on the amount of offsets used for compliance at

a lower level (see, e.g., Madsen et al. 2005). At the same time, though, business groups have expressed concern that the RGGI will do little to mitigate global climate change and will impose new restrictions that may cause electricity costs to increase while making the electric grid less reliable (see, e.g., New England Council 2005). Whereas some business groups may bring lawsuits against the RGGI, several environmental groups have pledged to campaign for a larger portion of allowances to be auctioned for public-benefit programs through state regulatory and legislative processes.

### Provisions for expansion

Through an amendment, the December 2005 MOU provides for the inclusion of states beyond the original seven. An expansion of the RGGI will likely reduce compliance costs for regulated entities within the RGGI states, making the addition of new states economically and environmentally desirable. To date, three neighbor states of the RGGI region have joined the initiative. The Governors of both Massachusetts and Rhode Island have adopted the initiative and the states have been reincorporated into the agreement. In Maryland, Governor Robert Ehrlich signed legislation in April 2006 requiring the state to become a full participant in the RGGI. One year later, newly-elected Governor Martin O’Malley signed Maryland on as the 10th RGGI state. Because geographic proximity is not a factor in the RGGI expansion, other states that are drawing up comprehensive climate policies—such as Arizona, California, Hawaii, Montana, New Mexico, North Carolina, Oregon, Washington, and several midwestern states—might also consider participating in the RGGI. Canadian provinces may also be potential candidates for RGGI expansion—particularly after 2012, when Canadian commitments under the current Kyoto Protocol expire.

### Vertical diffusion factors and the RGGI

Table 4 contains the seven vertical diffusion factors presented in section 3.

The RGGI exhibits all of the most significant vertical diffusion factors identified in this analysis. The push by state officials is the most important factor, since all the governors and several agency heads promoted the program as a precursor and model for federal action. Policy learning is evident, and the initiative contains several technical innovations while at the same time setting the states on a low-carbon pathway, potentially increasing their competi-

7. *Leakage* is defined as the extent to which reductions in emissions inside the RGGI region are offset by increases outside the region. This may be caused by electricity imports into the region from new or existing plants in other states. If these other states do not have emissions limits, they have a competitive advantage to sell cheaper power than can plants within the RGGI region. Leakage leads to lower overall environmental effectiveness—but also to lower overall compliance costs.



**TABLE 4. VERTICAL POLICY DIFFUSION FACTORS AND THE RGGI**

FACTOR	APPLICATION TO THE RGGI	RELEVANCE
Push for diffusion by state champions	State officials designing and promoting the RGGI have explicitly stated that federal action is necessary to address climate change and have promoted the RGGI as a model for action.	High
Policy learning: example, innovation, feasibility	The RGGI would be the first mandatory cap-and-trade system for CO <sub>2</sub> emissions in the United States, but it applies only to power generators, which already are familiar with SO <sub>2</sub> and NO <sub>x</sub> trading. New elements of the agreement include a large set aside of allowances, the potential for significant auctioning of allowances, and provisions for offsets, which differ from many proposed in other emissions-trading systems established to date. However, from a larger policy perspective, the EU has had an extensive emissions-trading system in place since 2005, which is probably more instructive. Politically and substantially, the homegrown example of the RGGI is important.	Medium
Spillover effect	The RGGI may increase the cost of electricity in the Northeast and lead to “leakage,” meaning the displacement of power generation and emissions from the RGGI states to adjacent states.	High
Horizontal diffusion	The RGGI already has ten member states, and it is designed to allow other states to join. Pennsylvania and the District of Columbia participated as observers in the RGGI’s design and share in the regional electricity markets. Other states could join without being adjacent to or near the Northeast.	Medium
Business support for federal action	Businesses’ reaction to the initial policy proposal was mixed. Some regulated firms supported the agreement, believing that it established a necessary baseline for the expectations of future government policymaking around which business investments could be planned. Others opposed the idea entirely, and still another group of firms took issue with the details of the proposal rather than its general merits or objectives.	High
Federal assistance to states	The RGGI does not receive assistance from the federal government and does not anticipate any federal assistance. But compliance with the RGGI is likely to be determined, at least in part, through emissions-monitoring provisions initially imposed by the U.S. EPA to ensure compliance with the Clean Air Act.	Low
Cost data	The principal objection to GHG emissions regulation in the United States is that it costs too much. Consequently, any cost data that RGGI could provide would be instructive and have political power, whether the costs appeared high or low compared with expectations. Since the RGGI does not begin operating until 2009, the program may not produce any data in time to be useful to the federal debate.	Medium

tiveness. Although GHG cap-and-trade regulations are in place in other parts of the world, the concept has yet to be demonstrated in the United States. The RGGI is taking this first step to show federal decision makers that such regulations are feasible. The program also exhibits the spillover effect, given that the states will address only a small amount of the problem (global GHG emissions) and bear the costs of emissions abatement while theoretically sharing the benefits of their actions with the rest of the world. In another manifestation of spillover, the RGGI may result in higher electricity prices in the region, causing a “leakage” of power generation and emissions to other states, and leading to arguments about equity. But if the RGGI or a comparable policy expanded to the federal level, the spillover effect would be largely addressed (notwithstanding the cross-border electricity flow with Mexico and Canada), which provides a significant incentive for vertical diffusion.

The RGGI encompasses many of the same states (the Northeast) and regulated entities (power plants) as do the NO<sub>x</sub> and acid rain cases in our study. Indeed, both these programs were important precursors of the RGGI in regard to the regulations and institutions involved, but the lessons learned from these cases may be limited, especially when considering the importance of the policies’ horizontal diffusion to additional states. The horizontal diffusion of the NO<sub>x</sub> and acid rain programs was limited and therefore does not appear to have been a major factor in driving federal action. We could conclude that the same holds for the RGGI. In other words, the United States may not need

dozens of states replicating the RGGI in order to drive federal action. Nonetheless, climate change is significantly different from “conventional” air pollutant problems, particularly because of its global nature and implications, so a different dynamic may apply. Every state contributes to both the problem and the solutions to climate change, in regard to the economy, population, and emissions. The addition of states to the RGGI would improve the program’s economic effectiveness, because a market-based program generally benefits from additional participants—and probably would help lower the political barriers associated with regulating GHG emissions. More participants, therefore, could accelerate and shape federal action decisively, in a way not apparent in the NO<sub>x</sub> and acid rain cases.

Business support for the RGGI was mixed, as shown in the comments they submitted in May 2006 on the draft model rule. The fact that the governors signed the regional MOU and appear committed to implementing the RGGI suggests that business is not unified in its opposition enough to block the states’ action. But will business support be a critical factor? In the acid rain case, which involved only a few states, there was no unified business support for federal action, yet the policy diffused anyway. In contrast, the NO<sub>x</sub> program was initially made up of nine states cooperating regionally and resulted in significant business support for vertical diffusion, at least among businesses in the affected region. Their support may be attributed to both the significant regional scale of action as well as the widely held view that federal rules were imminent. Thus the case can be

made that the RGGI will cause a split in the electric power industry, with regulated firms pushing vertical diffusion in their desire for nationwide uniformity and a level regulatory playing field.

## California Greenhouse Gas Vehicle Emissions Standards

In 2002, California Governor Gray Davis signed Assembly Bill 1493, popularly known as the “Pavley bill” after the bill’s sponsor, Assemblywoman Fran Pavley. The bill instructed the California Air Resources Board (CARB) to develop standards to achieve the maximum feasible and cost-effective GHG reductions from motor vehicles. The legislation marked California’s first attempt to reduce GHG emissions from the transportation sector, which accounts for more than 50 percent of the state’s total emissions (CAIT 2007). The legislation also permits the CARB to include flexibility mechanisms such as emissions trading to allow automobile manufacturers to lower the cost of compliance, provided that the mechanisms produce equal or greater GHG reductions.

The legislation explicitly prohibits the CARB from a variety of actions: banning a class of vehicles, lowering speed limits, mandating land-use controls, imposing additional fees or taxes, mandating reductions in vehicle miles traveled, and requiring a reduction in vehicle weight. These restrictions minimized opposition to the bill, which was fueled by vehicle manufacturers’ claims that any GHG reduction measures would require such actions. As a result, the CARB may consider only those standards that promote new technology.

Under the Clean Air Act, California is permitted to issue its own vehicle emissions standards for various pollutants as long as they are equal to or more stringent than the federal standards in the aggregate (see the case study on vehicle emission standards). California must first seek a waiver from the U.S. Environmental Protection Agency (U.S. EPA) in order for its state standards to enter into force.

The CARB moved quickly after the Pavley bill passed. Economic and technology analyses were conducted to determine the maximum feasible and cost-effective GHG reductions. A series of workshops gathered technical and nontechnical comments from interested members of the public. The final regulations were approved by the CARB on September 24, 2004, and, pending any legal challenges, will apply to model year 2009 vehicles and beyond. According to a CARB press release announcing the regulations, “The average reduction of greenhouse gases from new California cars and light trucks will be about 22 percent in 2012 and about 30 percent in 2016, compared to today’s vehicles” (CARB 2005).

In December 2004, the Alliance of Automobile Manufacturers and several California car dealers filed suit in federal court to stop the GHG standards, and they soon were joined by the Association of International Automobile Manufacturers. In their lawsuit the industry groups made two arguments. First, the U.S. EPA does not consider CO<sub>2</sub> to be a pollutant under the Clean Air Act, and therefore it cannot be regulated. Second, any regulation that mandates tailpipe emission reductions of GHGs would, in effect, be fuel efficiency standards, which are under the purview of the federal government and cannot be regulated by individual states. The case is currently under consideration in a federal district court in Fresno, California.

Despite this strong industry opposition, the governor, environmental groups, and a majority of the California public are in favor of the new rules. A survey conducted in July 2005 by the Public Policy Institute of California found that 77 percent of California adults approve of the regulations (Baldassare 2005). The governor and state legislature have now moved beyond just regulating GHGs from vehicles. In August 2006, Assembly Bill 32, sponsored by Speaker Fabian Núñez, was passed by the state assembly and subsequently signed by Governor Arnold Schwarzenegger. The law enables the CARB to promulgate any regulations necessary to reduce California’s economywide GHG emissions to 1990 levels by 2020. The law had strong backing from environmental groups and some business interests, and its enactment illustrates the enormous support for California’s GHG vehicle standards as part of this larger initiative.

### What the California GHG standards will do

California’s GHG vehicle standards are the first vehicle regulations in the United States to mandate a reduction in GHG emissions. The regulations require vehicle manufacturers to reduce the average GHG emissions of the cars they sell in California by an increasing amount below projected 2008 levels. The regulations call for emission reductions of approximately 30 percent by model year 2016, with separate emissions standards for passenger vehicles and light-duty trucks.

Car manufacturers who achieve fleetwide reductions between 2000 and 2008 will receive credit for early action that they can use to meet the more stringent standards as they are phased in, beginning in 2009. Other flexible compliance mechanisms are being devised as well to reduce the cost of compliance.

The CARB estimates that the cost of GHG emissions control will add approximately \$325 to each vehicle in 2012 and \$1,050 to the price of a new vehicle in 2016 and that these costs will pay for themselves over the life of the vehicle, through savings from lower operating costs. Indeed, the board estimates that the GHG regulations will be a net benefit for California, by raising consumers’ disposable

income and improving air quality throughout the state (CARB 2004b). However, the CARB's estimates have been challenged by automobile manufacturers, who claim that instead the new regulations will add \$3,000 to the price of a new car in 2016 and that such costs are unlikely to be recouped by consumers through lower operating costs and so will have an unacceptable adverse economic impact.

#### **Which states are likely to adopt California's GHG standards?**

Several states have already adopted California's more stringent air quality standards for conventional pollutants. Eleven states—Arizona, Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Washington—have either adopted or are about to adopt California's GHG vehicle standards, and many are now implementing the regulations (Pew Center on Global Climate Change 2006a). As a result, New York, as well as other states that have adopted the new standards, is the target of automobile manufacturer lawsuits similar to the suit in California.

The Bush administration has taken steps to prevent California from implementing its GHG vehicle standards and also from allowing other states to adopt them. Although the administration has not participated directly in the current lawsuit, it did file an amicus brief in a similar case in which automobile manufacturers are suing to overturn California's zero-emissions vehicle requirements. In addition, in 2005 the National Highway Traffic Safety Administration (NHTSA) proposed a rule that modestly increases fuel economy standards for light trucks. In the draft rule, the NHTSA reaffirmed its view that the states cannot impose legal requirements relating to fuel economy and asserted that "a state law that seeks to reduce motor vehicle carbon dioxide emissions is both expressly and impliedly preempted" (NHTSA 2005). Finally, the U.S. EPA has yet to approve California's waiver for stricter vehicle regulations (see the case study on vehicle emission standards).

#### **Provision for expansion**

In 2005, California accounted for 12 percent of the United States' new vehicle market. If all twelve states that have adopted or plan to adopt California's emissions standards are included, 36 percent of the total share of the new car market would have to adhere to the new GHG standards (NADA 2006). Given the large market for low-GHG-emissions vehicles that California's regulations will create, and the even larger market that will result if more states adopt California's standards, economies of scale will likely make such vehicles more affordable over time. This could spark interest in more states—as well as in other countries—in affordable low-carbon vehicles, a continued horizontal diffusion of the policy.

#### **Vertical diffusion factors at work in the California GHG vehicles standards**

Table 5 lists the seven vertical diffusion factors presented in section 3 as they apply to the California standard.

The California GHG vehicle standards contain all of the most significant vertical diffusion factors identified in this study. The regulations have the strong support of state officials, most notably the governor of California, as well as the governors of several other states that have indicated an interest in adopting similar standards. Many of these "champions" have identified federal action as a major cause for their support. Indeed, the regulations may prove that such policy action is feasible and attainable—the widespread interest in it is evident in the already significant horizontal diffusion. The climate change problem produces significant spillover effects for any state operating alone, which only makes federal action all the more desirable.

The California GHG standards may follow a track identical to the earlier case of California tailpipe standards for conventional pollutants. Under this scenario, the outcome is one in which two standards could coexist, with the state mandate more stringent than the federal one. Assuming that California's GHG standards survive legal and federal administrative hurdles, the federal government may choose not to adopt them, leaving that decision solely to the states. This would be an undesirable outcome for both the environment and business, as emissions would not be reduced to the same extent as they would from a federal policy, and automobile manufacturers would be shouldered with the added costs of producing two versions of every vehicle available for sale in the U.S. market.

An alternative compliance scenario would be for all vehicles to meet the new California standard, regardless of whether a state has adopted them. This is unlikely, based on historical compliance strategies for conventional pollutant regulation, but would nonetheless achieve a favorable environmental outcome and increase economies of scale, thereby lowering costs.

Another possible scenario is for the GHG regulations to mirror appliance efficiency standards. Precisely because of the fear of two standards and their potential costs to manufacturers and consumers, business may shift to supporting a vertical diffusion of California's GHG vehicle standards. This would likely be attractive to state officials as well, since it would create greater economies of scale, resulting in lower vehicle prices while still reducing emissions. But the states probably would not support any vertical diffusion that resulted in the full preemption of their ability to create (in the case of California) or adopt (in the case of all other states) rules that were more stringent than the federal standards.

**TABLE 5. VERTICAL POLICY DIFFUSION FACTORS AND CALIFORNIA GHG VEHICLE STANDARDS**

FACTOR	APPLICATION TO CALIFORNIA GHG VEHICLE STANDARDS	RELEVANCE
Push for diffusion by state champions	The policy has the strong support of California Governor Schwarzenegger, who has specifically cited federal inaction as a reason for pursuing this course of action. Officials in other states that have adopted the standards have made similar public comments. Many state officials want action on climate change and view these standards as one way to achieve this. Drawing on the history of California vehicle standard leadership, officials are aware of the track record for strengthening federal regulations through the adoption of these stricter standards.	High
Policy learning: example, innovation, feasibility	Until recently, the federal government, states, and even other countries had not attempted to regulate vehicle tailpipe emissions of GHGs. Instead, fuel economy standards were the norm. California's standards stand out as a first initiative of its kind in North America and the only mandatory GHG vehicle standards in the world (An and Sauer 2004). These standards may prove that such action is feasible and can provide a wealth of empirical knowledge for federal policymakers who may choose to push such regulations at the federal level.	High
Spillover effect	Climate change is a global problem caused by global GHG emissions. Any state or even national policy can address only a fraction of these emissions. The California GHG standards will increase the cost of cars sold in the state, and cars for sale in states that have not adopted the standard will cost relatively less and emit more GHGs. But because California may regulate emissions from all vehicles registered in the state, no matter where they were purchased, it is not clear that the relative price differences in vehicles will create competitive disadvantages—although the higher costs for vehicle owners may, in the aggregate, act as a slight drag on the economy. Conversely, if the CARB's fuel savings estimates are accurate, the state may benefit from the reduction in demand.	High
Horizontal diffusion	Eleven states, including California, have adopted or are in the process of adopting California's standards and represent a third of the U.S. new car market. Most of these states adopted California's more stringent emissions standards in the past. But other states that did not adopt these stricter standards have also expressed interest in or are considering legislation that would require their adoption. It is likely that this standard, which has already enjoyed significant horizontal diffusion, will continue to do so.	High
Business support for federal action	Business interests have expressed their preference for a single national standard over multiple state vehicle standards. Currently however, there is significant business opposition at the federal level for more stringent fuel economy standards, and it is reasonable to assume that they will oppose national GHG vehicle standards as well. To date, there is no significant business support for federal action on this policy front. But if California and other states are successful in implementing the standards, industry may push for uniformity through federal action. (This is complicated. The federal action could be the federal government's preempting the California standards and offering no substitute federal standard, meaning no GHG emissions standards for vehicles at all.)	Medium
Federal assistance to states	In formulating this policy, the federal government has not offered any technical or financial assistance to the state of California.	Low
Cost data	Various cost data derived from modeling California's standards are available. The CARB and other organizations conducted extensive cost studies and found that the regulations will have a net positive effect on the state's economy, despite the higher upfront cost per vehicle. Automobile manufacturers have countered with their own cost data showing this figure to be three times higher. Once operational, the program could thus yield important information about actual (as contrasted with modeled) costs.	Medium

## 5. Discussion and Conclusions

### Review of Case Studies

We found significant evidence that states can and do act as policy leaders and innovators and that they, in turn, have a strong influence on federal policy.

No single factor seems to indicate that a policy will diffuse vertically. The most frequently observed factor in the cases we examined was a push by state champions for federal adoption of a policy. Two of the cases, however, asbestos in schools and appliance efficiency standards, were not strongly promoted by the states and yet diffused anyway. Furthermore, even though the states advocated vigorously for a constitutional amendment for a balanced budget, it was not successful. Notwithstanding these exceptions, state advocacy seems necessary for success.

Another factor, closely linked to state advocacy, is the spillover effect, or the degree to which the perceived benefits and costs of a policy (and the problem it is meant to address) cross state lines. This can lead to arguments about equity, which in turn may influence how much both state officials and businesses press for a federal solution that is believed to be more effective. The existence of a strong spillover effect is sufficient to catalyze vertical diffusion even without widespread adoption by the states.

The power of example is important as well. The fact that states were able to design, innovate, and implement policies often served as a strong impetus for federal action. In some cases, however, such as enterprise zones and asbestos in schools, the learning effect was not only immaterial but also suggested that the policy—later adopted at the federal level—was not necessarily effective.

Likewise, the extent of a policy's horizontal diffusion from state to state may be important but is no guarantee that a federal policy will follow. While political momentum may build once a minimum number of states have adopted a policy, numbers alone do not guarantee success. In the case of the balanced-budget amendment, even though more than forty states adopted the policy, federal action is not forthcoming.

Cost data were not a common factor. In some cases, cost simply may not have been a major issue, for example, gun control laws. In other cases, cost data may have been unavailable, unnecessary, or disregarded in the federal decision-making process.

Business support for the adoption of a federal policy is complex and may be a significant factor when policy uni-

formity achieved through federal action alleviates compliance burdens or competitive disadvantages. Given the importance of business in influencing policy in the United States, including climate change policy, we give the issue extra consideration here.

Businesses that *oppose* state initiatives can deploy various national policy strategies to rein in the states. For example, groups seeking to prohibit states from occupying certain policy areas entirely can advocate total deregulation by all levels of government, enforced by the federal preemption of any state action, as was evident in the case of disinvestment in Burma. Businesses and other interests also can use litigation to block state actions. But this tactic can backfire, since any success in delaying or thwarting state action has the potential to elevate public awareness of an issue while at the same time pushing the issue onto the federal policy agenda.

More often, however, the states' initiatives tend to force business to accept a compromise somewhere between total preemption and state regulatory activism, in the form of federal standards or minimums reflecting (at least in part) the states' regulatory goals. For instance, in the case of national energy appliance standards, business interests succeeded in preempting those states that had taken the initiative to enact differing standards. But they were not able to preempt any policy action; rather, they had to accept some national standards. So in this case, although they used preemptive national policy tools, the states' initiatives effectively pushed the business community closer to national standards than they had originally wished to go. Ironically, then, while the states' policy initiatives can lead to their preemption, the resulting national standards in fact constitute a policy expansion of some portion of these earlier state policies (Teske 2005).

In addition, as businesses have become more global, they have shifted from their traditional position of supporting the decentralization of policy to the states toward seeking national legislation to standardize, restrict, or actually prohibit the states' initiatives. On issues ranging from environmental protection to the taxation of Internet access to the regulation of health benefits, many national interests have tried to limit the states' policy flexibility and discretion. National businesses have come to regard one national policy as being more economically efficient than coping with varying policies across the fifty states. Against this backdrop, the success of one or more states in pushing through a major new policy may cause national businesses to drop their opposition and support a uniform federal policy.

This study examined cases in which states were able to establish a policy and then, in most cases, advocated for its federal adoption. Note, however, that the states risk losing control of the policy agenda if an issue expands to the federal level. While the state-based advocacy of national policy change can help institutionalize policy expansion, it can also invite other interests to shape these national policy bargains. For instance, state education standards and testing were used as the basis for the No Child Left Behind program, but the federal standards adopted went beyond the efforts of the many states that were used as the exemplars of policy change. Similarly, although welfare reform was based in large part on policy innovations in the states, federal welfare reform law can and did go beyond their policies by foisting new federal child support enforcement standards on the states and, in the most recent 2006 reauthorization, by imposing reinvigorated work requirements on the states, which many view as onerous and precipitous.

The states may also find themselves perpetually “raising the bar” for policy action. In cases dealing with environment and energy policies, federal action was almost always in the form of partial preemption, essentially setting a floor for policy but allowing states to exceed that minimum. In several cases, such as acid rain abatement and appliance standards, the states chose to exceed the federal standards and continue to set the pace for regulation. Thus partial preemption prevents any stifling of the federal system’s ability to innovate while providing a uniform policy to which all states must adhere.

### The RGGI and the California GHG Vehicle Standard

Both the RGGI and the California vehicle emissions standards appear poised to have a profound effect on U.S. federal policy on climate change, probably shaping and accelerating the federal adoption of mandatory controls on GHG emissions. These initiatives exhibit signs of the necessary factors for successful vertical diffusion: a push by state champions, policy learning, and strong spillover effects. Although both policies have the potential for horizontal diffusion, our case studies suggest that this will not be the critical factor. Also, whereas our case studies show a mixed result for the importance of business support, characteristics of both the RGGI and the California initiative indicate that businesses will respond by advocating for federal uniformity, thereby accelerating the federal response to climate change.

Five of the six environmental cases we examined resulted in federal partial preemption, including controls on NO<sub>x</sub> emissions, SO<sub>2</sub> emissions, and vehicle emissions, suggesting that the federal government also is likely to use partial preemption to respond to the RGGI and the California standards. If it does, we can expect that the RGGI and

California initiatives will become a floor, or minimum, for GHG controls that can be exceeded by states if they choose. In this respect, the longer-term implications are that the states may be at the leading edge of GHG regulation far into the future. That is, climate change is a long-term problem requiring long-term solutions and technology and market adjustments. The states may play the role of policy innovator for decades, with the federal government periodically stepping in and setting policy floors. In the near term, the states may indirectly exert significant pressure and potential for federal policy, but when political circumstances change and a federal “policy window” opens, the states’ work may instead have the effect of hastening the policy’s federal adoption.

The RGGI and California initiatives have important implications that go beyond the timing to federal policy. Climate policy can take a variety of forms and may include a combination of measures, like market-based programs, taxation, regulatory standards, international agreements, and the research, development, and deployment of technologies. Indeed, any effective response to climate change is likely to include all these measures, although policymakers are likely to emphasize one or more over the others. In this respect, the RGGI and the California vehicle emissions standards may foretell the shape of U.S. federal climate policy and thus suggest a disinclination to certain policy approaches. For example, if the state initiatives are to shape federal policy, then we might expect a federal program that uses a market approach to large point sources of emissions, combined with an emphasis on improving efficiency in the transportation sector. Such an outcome could come at the expense of an alternative policy approach that focuses on “upstream” carbon pricing attached to fossil fuels, coupled with subsidies to promote alternative transportation fuels. These are important trade-offs that state policy precedents certainly influence, albeit not necessarily in a decisive manner.

For public officials, business representatives, and nongovernment experts developing national standards for climate policy and GHG emissions regulation, our analysis suggests the following set of actions that might be taken:

- Supporting and encouraging state champions that promote their own standards as well as broader federal action may have the most impact on vertical policy diffusion.
- Moving quickly to develop and implement state policies will allow any learning to be used in the federal effort. This may apply to specific policy designs and performance as well as the lessons learned in developing the policy itself. Thus, for the RGGI, learning may take the form of using similar allocation methods, offset rules, set-aside rules, or an open stakeholder process, and in the auto sector, a federal standard may draw on the extensive technical work carried out in California.

- Research and analyses detailing the extent to which the costs and benefits of climate policies spill over state boundaries may generate more enthusiasm for a federal program but are likely to be more effective if combined with state advocacy efforts.
- Although horizontal diffusion was not as important as other factors, programs with wider state diffusion were more likely to be adopted at the federal level. Thus, efforts to persuade other states to adopt the RGGI and California standards are likely to improve the chances of a federal program. Also, given the frequency of federal partial preemption as a response to state policy activism, the development of more stringent state standards is likely to lead to more stringent federal standards.
- Finally, some measure of business support is helpful at any level of policy development but is not always critical to vertical diffusion. If the RGGI or California standards are able to split industry opposition and/or create an impetus for policy uniformity through federal action, then these policies stand a greater chance of triggering and accelerating federal adoption.

## Suggested Areas for Additional Research

This study is largely qualitative and uses the authors' subjective judgments to determine the nature and frequency of those factors that propel state policies to the federal level. Additional research could build on this analysis in the following ways:

A quantitative statistical analysis could be designed to examine the correlation between the geographic patterns of federal voting on certain policies and the preexistence of similar state-level policies. This could include an examination of federal roll call votes. But one problem with this approach is finding "pure" votes that are cast specifically for a single policy proposal rather than a bundle of measures wrapped into a single bill, as is often the case.

The existence of federal champions for a given policy may help "pull" the policy from the state to the federal level. But this requires understanding the thinking of the federal champions, assuming that they can be identified. Interviews with key actors in federal policymaking could be useful. In addition, an examination of the importance of political party control of the legislative and executive branches of the federal government may be useful to assess its impact on vertical policy diffusion.

Because some states may be more important than others in determining vertical diffusion, a deeper investigation of the significance of politically important states in the diffusion of policies may be useful.



## Appendix: Case Studies

### Environment and Energy Policies

1. Acid Rain and the Regulation of Sulfur Dioxide (SO<sub>2</sub>) Emissions
2. Appliance Efficiency Standards
3. Asbestos in Schools
4. Nitrogen Oxide (NO<sub>x</sub>) Emissions Trading
5. Organic Farming
6. Vehicle Emissions Standards

### Nonenvironment Policies

7. Divestment from South Africa and Burma
8. Education Testing
9. Enterprise Zones
10. Gun Control Laws
11. Welfare Reform

### Policies That Did Not Diffuse to the Federal Level

12. Balanced-Budget Amendment
13. Land-Use Planning

## CASE STUDY 1

## Acid Rain and the Regulation of Sulfur Dioxide (SO<sub>2</sub>) Emissions

Scientific concern about acid deposition, more commonly known as *acid rain*, first surfaced in the early 1970s as European scientists began documenting ecological damage caused by unusually acidic rainfall. The stationary combustion of coal and oil, primarily from electricity generation and industrial processes, can emit large amounts of sulfur dioxide (SO<sub>2</sub>) into the atmosphere. Once airborne, SO<sub>2</sub> is absorbed by clouds and lowers the pH of the resulting precipitation; in other words, the rain becomes more acidic. Acid rain can reduce the nutrient values of forest soils and reduce the pH of water bodies to levels that kill aquatic life. It can also damage buildings and agricultural crops. In sum, acid rain has been documented to cause long-term and sometimes irreversible ecological damage (Driscoll et al. 2001).

In response to increasing political pressure in the United States to act on air pollution, President Richard Nixon first enacted regulations on new point sources of pollutants pursuant to the 1970 Clean Air Act (CAA). This legislation also set National Ambient Air Quality Standards (NAAQS) for SO<sub>2</sub> and other pollutants, to which each state must comply through the development of a state implementation plan (SIP). The 1970 CAA allowed the states to regulate existing sources, permitting them to set standards in line with their SIPs.

The effects of acid rain in the United States became increasingly apparent during the 1970s as water bodies and forest areas in the Northeast and eastern Canada began to show signs of degradation. Fish species that could not adapt to lower pH levels were dying in lakes and streams, and populations of sensitive forest species such as sugar maple and red spruce were deteriorating (Driscoll et al. 2001). It was later recognized that the primary cause of acid rain in these areas was SO<sub>2</sub> emissions from industrial and electric power facilities in the Midwest burning cheap, high-sulfur coal, although this link was not sufficiently established until the early 1980s.

As the damage from acid rain was better documented, environmentalists began to call for a federal policy response to address the issue. President Jimmy Carter took the first federal step to address the issue by signing the Energy Security Act of 1980, which included a title authorizing the creation and funding of the National Acidic Precipitation Assessment Program (NAPAP). Led by the U.S. Environmental Protection Agency, the NAPAP was a decade-long assessment of the acid rain problem conducted by a team of federal agencies with the goal of informing Congress and providing policy recommendations. The assessment

required the collaboration of several federal agencies in coordination with state, private, environmental nonprofit, and university research programs. Even though the expenditures for the NAPAP totaled nearly \$600 million, the only connection between this federal effort and the states' acid rain research seems to have been their coordination.

In response to calls for action in the 1980s, the federal administration under President Ronald Reagan asserted that the science of acid rain was too uncertain to warrant policy actions that might impose severe costs on the electric power sector and put miners of high-sulfur coal in the Appalachian and Midwest states out of work. The administration declared that instead, the best option was to wait for the completion of the NAPAP and other studies in order to make the most informed decision.

In the meantime, the CAA's regulations for new sources in combination with the NAAQS were found to be inadequate to address interstate and transboundary emissions of SO<sub>2</sub>. These requirements failed because they focused on controlling local air pollution. To comply with the standards, large emissions sources in the Midwest were raising the height of smokestacks to avoid local air pollution, but the smokestacks also served to facilitate the long-range transport of acidic pollutants downwind toward the Northeast (GAO 1984).

The geographic dimensions of the pollution problem sparked political tension between the affected northeastern states and the midwestern states. As early as 1983, northeastern officials began calling for federal action, as they were nearly powerless to control pollution from the upwind states of the Midwest on their own. Immediately following an agreement by six northeastern governors to cooperate on regional SO<sub>2</sub> emission cuts, they proposed a national SO<sub>2</sub> control plan. Tension also rose between the United States and Canada, which was first addressed in 1981 when the two countries signed a memorandum of intent to work together to resolve the acid rain problem. But relations between the two allies were strained when the United States rejected a Canadian proposal that would have committed both sides to reduce SO<sub>2</sub> emissions by 50 percent. The bilateral disagreements over acid rain were a sticking point for both countries for the next eight years until an agreement was reached in 1991.

While it was apparent that the northeastern states were bearing the brunt of the acid rain problem, its geographic dimensions also raised concerns about which states would bear the costs of fixing it. Although there were no empiri-

cal cost data on emission control regulations in the early 1980s, it was clear that any regulation would affect primarily the largest sources of SO<sub>2</sub> emissions and high-sulfur fuel. In this case, the Appalachian and midwestern states were in line to assume the largest burden if and when any regulations were put in place. Thus, these states were the sources of significant political opposition during the acid rain debate. Conversely, those states with abundant sources of low-sulfur coal, like Wyoming, stood to gain considerably from any national effort to reduce SO<sub>2</sub>, although it is not clear whether these states advocated directly for stronger controls.

Without federal regulations to reduce interstate acid rain pollution, several states took it upon themselves to reduce emissions from sources under their regulatory control. Thus the New England states, in cooperation with the eastern Canadian provinces, committed to regionwide action on sulfur pollution while also urging comprehensive national action in both the United States and Canada. New York, New Hampshire, and Massachusetts, all states affected by acid rain, passed legislation in the mid-1980s mandating a reduction in SO<sub>2</sub> emissions. Wisconsin and Minnesota, two states contributing modestly to acid rain pollution, passed similar legislation. Other states, such as Michigan and North Carolina, mandated that all utilities burn only low-sulfur coal. Officials from downwind states who had been advocating for federal action since the early 1980s then began promoting their home states' actions as models for federal policy.

All these state initiatives were applauded by environmental groups like the Sierra Club and the Natural Resources Defense Council (NRDC). At the same time, the electric power and coal industries spent several million dollars fighting these state efforts while also heavily lobbying Congress to prevent national legislation from gaining traction (Samson 1998). The largest utilities involved in this effort were American Electric Power and Southern Company, both with substantial coal capacity in the Midwest and Southeast. It is unclear from written accounts what role, if any, the northeastern electric utilities had in opposing or promoting federal acid rain regulations. Throughout the 1980s, congresspersons from coal-burning and high-sulfur coal-producing states successfully blocked several bills that would have mandated substantial (50%) emission cuts and/or increased research and development spending on pollution abatement technologies. On the other side of the debate were legislators from northeastern states who continued to fight for stronger pollution controls (Reitze 1999).

By the late 1980s, state-level regulations were beginning to show results. In 1988 in Massachusetts, SO<sub>2</sub> emissions were 41 percent lower than in 1970 (Godfrey 1988), and in 1990 in Wisconsin, SO<sub>2</sub> emissions were 46 percent lower than in 1980 (WDNR 2005). These states' successes

refuted opponents' arguments that pollution cuts were unattainable.

By this time, the federal government had conducted several cost estimates to ascertain the total compliance costs of reducing emissions by 50 percent from 1980 levels. The study attracting the most attention was a cost estimate report by the Congressional Budget Office (CBO 1986) that estimated the total program cost to be as high as \$93 billion (1985 dollars). Other cost projections became important as the acid rain debate progressed, but it is unclear what influence the empirical data from state acid rain regulations had in pushing federal action on the issue.

In 1987, the NAPAP published its first interim assessment, two years behind schedule. It found that the impacts of acid rain were minimal and did not warrant large, mandatory cuts in emissions (Kulp and Herrick 1987). The executive summary distributed to policymakers amplified these findings and angered members of Congress and supporters of acid rain control, as the summary contradicted most of the other scientific studies. In the end the NAPAP was seen as a delay tactic by the administration, to postpone acid rain regulation as long as politically possible (Regens 1993).

The change of administrations in 1989 presented an opportunity to finally pass new legislation to curb acid rain. President George H. W. Bush expressed a desire to take action on acid rain and signed the Clean Air Act Amendments of 1990 (CAAA). Title IV called for a cap-and-trade program for SO<sub>2</sub> that aimed to lower emissions to 50 percent below 1980 levels by 2000. The amendments still allowed states to regulate SO<sub>2</sub> emissions from sources that existed before the 1970 CAA.

The National Acid Rain Program under the CAAA was able to reduce SO<sub>2</sub> emissions from regulated entities by five million tons between 1990 and 2004 (U.S. EPA 2005a). Through the late 1990s, however, it became increasingly clear that the current efforts were not enough to adequately address acid rain and other regional effects of sulfur oxides. Again, through the New England governors and the eastern Canadian premiers, cooperative council states and provinces submitted a regional action plan in 1997 that called for an additional 50 percent cut in SO<sub>2</sub> emissions beyond current requirements by 2010. In accordance with the plan, Connecticut, Massachusetts, and New Hampshire all implemented regulations requiring further cuts in SO<sub>2</sub> of 50 percent, 75 percent, and 75 percent, respectively.

Citing the connection between SO<sub>2</sub> emissions and public health as well as the continuing problem of acid rain, the U.S. EPA promulgated the Clean Air Interstate Rule (CAIR) in 2005.

**TABLE 6. ACID RAIN SCORES FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– Different types of policies (mandatory emission cuts and low-sulfur fuel mandates) proved that emission reductions could be achieved in different ways.</li> <li>– These state initiatives were presented as positive examples in the federal policy debate.</li> </ul>
Cost data	●	<ul style="list-style-type: none"> <li>– Cost projections were influential in the federal acid rain debate, particularly those produced by the CBO.</li> <li>– It is unclear whether state-derived empirical cost data were available, but they do not seem to have been influential in catalyzing action at the federal level.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– The source of the problem originated in the Midwest but was manifested downwind in the Northeast.</li> <li>– Action by the northeastern states did little to solve the problem.</li> <li>– Spillover caused significant tension between the midwestern and northeastern states as well as between the United States and Canada.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– Diffusion was moderate, as a total of seven states took some sort of regulatory action before the federal policy was adopted in 1991.</li> </ul>
Federal assistance to states	○	<ul style="list-style-type: none"> <li>– There was almost no federal assistance to the states during the policy debate, for either scientific research or policy development.</li> <li>– The NAPAP represented a sizable federal research effort, but coordination with state programs appears to have been the only significant interaction.</li> </ul>
Business support for federal action	○	<ul style="list-style-type: none"> <li>– Major businesses, including major electric utilities and coal companies, were opposed primarily to federal action.</li> <li>– The role of the utilities in the acid rain hot-spot area of the Northeast in promoting or opposing federal action is unclear.</li> <li>– Based on the information available and presented in this case study, it appears that no major businesses supported the federal effort publicly.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– The northeastern states called for federal action because they could do little within their own jurisdictions to combat the problem.</li> <li>– The northeastern states passed regulations that they then promoted as models for federal action.</li> </ul>

The CAIR encompasses nearly all states east of the Mississippi and will require by 2018 a further 70 percent cut in SO<sub>2</sub> emissions in these states beyond the CAAA's requirements. The states must comply by either allowing entities under their jurisdiction to participate in a CAIR regional cap-and-trade program or creating their own compliance mechanism.

## Summary

Beginning in 1970 the federal government regulated SO<sub>2</sub> emissions in tandem with the states through new source performance standards and SIPs. But even as the problem of acid rain gained prominence in the early 1980s, the federal government failed to take further action, despite the great tension between the midwestern and northeast-

ern states and between the United States and Canada. With legislation continuing to fail in Congress and an administration delaying regulatory action, several states enacted regulations that significantly reduced SO<sub>2</sub> emissions within relatively short periods of time. These regulations showed that such emissions cuts were feasible, thereby undermining political arguments to the contrary. In 1990, with many of the political barriers out of the way, a new administration was able to enact legislation to cut SO<sub>2</sub> dramatically. Further action by states in the late 1990s called attention to the fact that the CAAA of 1990 were not stringent enough to adequately address acid rain and other regional impacts of sulfur pollution. Then in 2005, the federal government began implementing the CAIR to achieve deeper reductions in SO<sub>2</sub>.

## CASE STUDY 2

## Appliance Efficiency Standards

Appliance efficiency standards first gained attention in the early 1970s when they were seen as an opportunity to increase electrical system reliability and reduce the associated environmental impacts. The rising energy prices during the 1973 energy crisis then pushed the issue to the forefront as one of many possible ways to reduce the nation's dependence on foreign energy sources (Nadel and Goldstein 1996).

In 1974, California Governor Ronald Reagan signed the Warren Alquist Act, which led to the nation's first appliance efficiency standards. In doing so, he cited the need to reduce energy consumption, conserve energy resources, and lessen the impact of energy use on the environment as reasons (California Energy Commission 2005). The statute had sufficient support from California legislators to overcome the uniform opposition of appliance manufacturers, which argued that the market on its own could provide greater efficiency and that regulation was unnecessary (Nadel and Goldstein 1996). The legislation instructed the California Energy Commission (CEC) to promulgate minimum efficiency standards for fifteen household appliances, such as refrigerators, freezers, and air conditioners, for sale in the state. The standards took effect between 1977 and 1979.

Reflecting similar energy concerns, the federal government also put national appliance efficiency standards in place in the 1970s, concurrently with California's efforts. First, the Energy Policy and Conservation Act of 1975 established efficiency targets to guide federal policy. Under the Carter administration, the National Energy Policy and Conservation Act of 1978 directed the U.S. Department of Energy (DOE) to develop mandatory efficiency standards for thirteen products by 1983. According to these statutes, the DOE's standards had to be technologically feasible, economically justified, and result in significant energy savings.

In 1980 the DOE published its proposed standards for thirteen products, but its standards were criticized by industry as being too strict and costly to meet on a national scale (GAO 1981). So the DOE revised the standards and dropped five products from coverage, but this second proposal was suspended when the Reagan administration took office in 1981. Under Reagan, the DOE revised its analysis of draft standards. These new assessments predicted negligible cost and energy savings to consumers and undue burdens for manufacturers (GAO 1981). Citing these findings, the DOE issued "no standard" standards in 1982 and was promptly sued by pro-standards advocacy organizations, such as the National Resources Defense

Council. A U.S. court of appeals ruled against the Reagan administration and threw out the no-standard standards in 1985. Subsequently, federal action was limited until 1986 (Geller 1997).

Meanwhile, California strengthened its standards in the early 1980s and expanded the list of covered products. In addition, with the low likelihood of federal action, several other states implemented efficiency standards for appliances sold within their borders, including New York in 1976; Arizona, Florida, and Kansas in the early 1980s; Massachusetts in 1986; and Connecticut in 1987. These state standards were not identical, covering different products and requiring different minimum standards, and thereby resulting in a regulatory patchwork that, manufacturers claimed, made it difficult to achieve the economies of scale necessary to produce low-cost products on a national basis (McInerney and Anderson 1997).

The proponents of standards answered these concerns with cost projections and estimates claiming that any added cost of products would be offset through savings on electricity bills. Although empirical data from those states that already had standards may have been available at the time, particularly from California, it is unclear whether or not these data were influential in pushing federal action. Anecdotal evidence published in news accounts did offer isolated examples of higher prices for products in states with standards. One reporter found that a similar air conditioner for sale in California cost \$40 more than its equivalent for sale elsewhere (Longenecker 1979). Again, from the perspective of this study, it is unclear how such stories influenced the federal debate, if at all.

In reaction to the increasing number of state standards, manufacturers changed course and began calling for federal preemptory regulations. As long as similar energy savings were assured, the states were not opposed to such legislation, because it was likely to lower the cost of regulated products. Efficiency advocates were willing to cooperate in order to push standards to a national scale. In the mid-1980s, manufacturers negotiated draft legislation with efficiency advocates and states (Geller 1997). This legislation was introduced in Congress and passed with minimal opposition in only three months. In 1987 President Reagan signed the National Appliance Energy Conservation Act (NAECA) into law, setting standards for fourteen products.

Federal standards for particular products preempt state regulations covering the same products. The NAECA in-

**TABLE 7. APPLIANCE EFFICIENCY STANDARDS SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– California's early action proved that the concept of efficiency standards was effective and feasible.</li> <li>– Multiple state policy adoptions and implementation reinforced the perception of feasibility.</li> </ul>
Cost data	●	<ul style="list-style-type: none"> <li>– Federal studies in the 1980s and industry positions suggested that meeting the new efficiency standards would greatly increase the price of appliances, so cost was an issue in the policy debate.</li> <li>– Anecdotal and historical cost data on regulated appliances were available.</li> <li>– It is unclear from the available information whether the states' empirical cost data had any influence on the federal debate.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– The patchwork of dissimilar state policies placed a burden on manufacturers to sell different products in different states, preventing full economies of scale.</li> <li>– Sticker prices and life-cycle costs differed depending on the state where the appliance was bought.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– In the mid-1980s, state-to-state diffusion was moderate and geographically scattered.</li> <li>– The diversity of standards that arose through horizontal diffusion appears to have been more important than the amount of diffusion.</li> </ul>
Federal assistance to states	○	<ul style="list-style-type: none"> <li>– No federal assistance was provided to states to formulate efficiency standards.</li> </ul>
Business support for federal action	●	<ul style="list-style-type: none"> <li>– Businesses initially opposed vertical diffusion until the regulatory patchwork appeared.</li> <li>– By the mid-1980s and again in 2005, the desire for regulatory uniformity caused appliance manufacturers to support vertical diffusion.</li> <li>– Once the patchwork was in place, few business were opposed to federal action.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– State representatives negotiated with environmentalists and manufacturers to formulate the first national standards.</li> <li>– States were active in developing their own standards but were not particularly vocal at the national level.</li> </ul>

structs the DOE to update standards over time and to add standards for products when appropriate. Congress added several products to the regulatory list through the 1988 amendments to the NAECA and in the Energy Policy Act of 1992. States are still permitted to issue appliance standards for products not covered by federal standards.

As time passed and new appliances and devices entered the market through the 1990s, opportunities for new standards to cover never-before regulated products became apparent. With the exception of new and updated DOE standards set under instructions by the legislation just discussed, no new federal standards covering new appliances were implemented for more than a decade.

Without federal action to impose new standards on more appliances, individual states again set efficiency standards. As of April 2006, nine states (Arizona, California, Connecticut, Maryland, Massachusetts, New Jersey, New York, Rhode Island, and Washington) passed standards. As in the past, these state standards are not uniform, as they cover as few as eight products in New Jersey to as many as seventeen in California (Pew Center on Global Climate Change 2006b). All these efforts were opposed by manufacturers, which instead favored uniform federal standards (Air Conditioning and Refrigeration Institute 2005).

As they did in the 1980s, the patchwork of state standards gave manufacturers sufficient motivation to lobby for federal action. A broad coalition of public-interest groups, appliance manufacturers, and states pushed for the passage of new standards for sixteen unregulated appliances (National Electrical Manufacturers Association 2005). The provisions were adopted and included in the Energy Policy Act of 2005. The new standards preempt state rules and provide instructions for the DOE to create additional standards for new appliances in the future.

## Summary

Without state initiatives to control energy consumption through appliance efficiency standards, a great amount of energy savings would have been delayed or possibly never saved. Individual state actions and their ability to overcome stakeholder opposition showed that standards are an economical and feasible means to achieve such savings. The patchwork of dissimilar state standards created an incentive for manufacturers to change their position and pursue nationwide uniform standards, which they had traditionally opposed. Their support, combined with that of state, environmental, and consumer advocates, provided a push for national standards that in the 1980s overwhelmed the administration's opposition. This pattern was then repeated more recently, with the states issuing new standards for unregulated products which eventually led to a new round of national standards.

## CASE STUDY 3

## Asbestos in Schools

Research conducted as early as the 1930s showed the risk of exposure of workers in asbestos manufacturing plants and in other industrial settings. But it was not until the Technical Assistance Program in 1979 that the U.S. EPA and Congress began to move, slowly, toward a federal role in addressing asbestos in the nation's schools. This legislation culminated in the passage of the Asbestos Hazard Emergency Response Act (AHERA) of 1986, which launched a federal regulatory program requiring the nation's 37,000 school districts to inspect for and clean up asbestos in their school buildings (Posner 1998).

The passage of this legislation had its roots in a broad political coalition pushing for an expanded federal role. The Environmental Defense Fund (EDF) jump-started the process at the federal level by filing suit against the U.S. EPA asking for a federal inspection and abatement program, using the authority under the Toxic Substances Control Act, section 21. The EPA responded with the 1979 Technical Assistance Program and a requirement for local inspections of schools, which were required to report the results to anxious parents. This program created momentum for the eventual passage of the 1986 act by uncovering problems in schools, which in turn led to widespread parental concerns. In some cases, schools were pressed to undertake expensive abatement programs, even when containment rather than removal would have been the more appropriate response.

Following the inspection program, the pressure grew for a full-blown federal statute requiring both inspection and abatement. Political leadership was central to this initiative, with Republicans controlling the Senate, most notably Senator Robert Stafford of Vermont, and Democrats in the House, especially James Florio of New Jersey, taking the lead as "policy entrepreneurs." Although conservative Republicans had misgivings, the issue had gained the status of an unassailable policy issue, in which all sides viewed public opposition to stronger regulation as illegitimate. As the legislative drumbeat picked up speed, the coalition took energy from other groups, including the Parent-Teacher Associations and the Service Employees International Union (SEIU), which represents school janitors.

During the approximately ten years leading up to the passage of the 1986 federal legislation, state and local initiatives played a vital role in stimulating initial interest and then in broadening the coalition supporting the legislation's passage. Initial inspection and abatement initiatives were piloted at the state and local levels. By 1979, the year when the first EPA program was launched, thirty-one states

already had asbestos-in-schools programs. The Government Accounting Office (GAO) found that all eleven states it visited had begun their programs by 1977, a full two years before the federal program began (GAO 1982).

As happens with so many federal initiatives, the progressive actions of some states and local schools helped sow the seeds of federal interest, whereas the failure of many other states and localities to follow suit voluntarily led many people to believe that a federal role was necessary. Progressive state and local actions served to highlight the extent of the problem and prompted some advocates to seek federal action to extend these programs to those other inactive states and localities. Advocates pointed to the lack of uniformity in state and local program coverage and quality. For example, more than 33,000 schools had not yet been inspected, and the GAO found that many states made local asbestos inspections optional. The criteria for action varied as well. Florida required all "friable" asbestos to be removed, whereas Houston decided to take no abatement action, pending issuance of the EPA standards. And one EPA study found that 75 percent of state and local remediations were improper or inappropriate (U.S. EPA 1984).

Although this dynamic of innovation diffusion is well known, how state and local innovations cause state and local officials and business groups to press for a policy's national adoption is not as well understood. In this case, the initiation of federal technical assistance and inspection programs in the early 1980s accelerated the school associations' support for a federal regulatory statute.

The associations of school boards and superintendents, and the asbestos industry, began to welcome federal standards for inspection and remediation to provide bright lines and political cover in dealing with what they regarded as extreme demands from parents for cleanups far beyond anything warranted by professional standards or science. Federal standards could add support to the voices of restraint at the local school boards seeking to avoid expensive and disruptive removals. New federal standards also could tell schools facing asbestos cleanups when they had finished. The asbestos industry itself saw a federal law as an opportunity to standardize and rationalize conflicting and what they regarded as extreme state and local measures. Thus, regulated groups—both industry and state and local governments—were prompted by the regulatory activism of state and local governments to embrace national standards. Moreover, as support for the legislation grew, the way for these groups to gain a seat at the table was to

**TABLE 8. ASBESTOS-IN-SCHOOL SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– The actions of many states and school districts to clean up asbestos served as a laboratory for federal officials and groups seeking to nationalize the program.</li> <li>– State programs provided models for policy choice in some respects, but they also illustrated weaknesses that justified federal standards and oversight to correct.</li> </ul>
Cost data	○	<ul style="list-style-type: none"> <li>– Although cleanups pursuant to state and local programs had costs, these were not influential in determining the federal policy outcome.</li> <li>– State-generated cost data were available to federal policymakers, but the nature of the problem rendered these data irrelevant to the debate.</li> </ul>
Spillover effect	○	<ul style="list-style-type: none"> <li>– The actions or inactions regarding the asbestos of one state, or even one school, had few if any spillover effects on others.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– Horizontal diffusion was an important factor in promoting interest in asbestos cleanup in schools. The actions of a number of states gained national media and political attention and served to stimulate further interest across the nation and in Congress.</li> </ul>
Federal assistance to states	●	<ul style="list-style-type: none"> <li>– Federal aid and technical assistance helped pave the way for the eventual adoption of the federal asbestos-in-school mandate.</li> <li>– Federal assistance helped promote interest among local schools and states and helped lay the groundwork for the more coercive federal regulatory program enacted in 1986.</li> </ul>
Business support for federal action	●	<ul style="list-style-type: none"> <li>– The asbestos industry was ambivalent about federal standards but eventually came to support some federal approach to rationalize state and local cleanup actions.</li> <li>– The asbestos industry itself saw a federal law as an opportunity to standardize and rationalize conflicting and what they regarded as extreme state and local measures.</li> <li>– Nonetheless, some business interests did not actively support federal action on asbestos cleanup.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– The associations of school boards and superintendents were ambivalent. Although wary of new mandates, they came to welcome federal standards for inspection and remediation to provide bright lines and political cover in dealing with what they regarded as extreme demands from parents for cleanups far beyond anything warranted by professional standards or science.</li> </ul>

support the need for standards, which they then used to obtain provisions weakening particular standards or gaining new federal funding for compliance.

While the rationalization of existing state and local initiatives was a powerful factor in obtaining both these groups' support for federal legislation, the state and local governments faced more compelling political reasons to support the legislation: it simply was not politically tenable for elected officials to oppose the coverage of children by federal standards for asbestos. Now that the issue was defined in such a compelling way, state and local officials were not relegated to the sidelines, but instead often became champions by gaining the high ground with the broader electorate. Thus, Governor Toney Anaya of New Mexico asked the SEIU to look for an opportunity to assert national leadership on the issue. The governor and the union then lobbied the National Governors Association (NGA) and

gained their support for the 1986 AHERA. Although several governors suggested modifying the proposal to avoid advocating a mandate, Anaya succeeded in gaining the NGA's support for his position and testified in favor of the bill.

### Summary

The asbestos-in-schools program was influenced by state leadership in advance of the federal statute. Although not characterized by any strong spillover effect requiring policy nationalization, the states' actions nonetheless seeded interest at the national level and prompted emulation by other state and local governments as well. Notwithstanding the cost impacts of federal mandates, school associations acquiesced to or supported federal standards to provide political cover from more aggressive local constituencies, such as PTAs, and to demand more aggressive action than was required or warranted under the new law.



## CASE STUDY 4

## Nitrogen Oxide (NO<sub>x</sub>) Emissions Trading

Nitrogen oxides (NO<sub>x</sub>) are an air pollutant that can lead to acid rain and other forms of environmental degradation and harm to human health (Burtraw et al. 2001; Metcalfe et al. 1998; National Research Council 1991; Shindell et al. 2003). Most important, NO<sub>x</sub> emissions lead to the formation of ground-level ozone, or “smog,” which in turn causes both acute and chronic respiratory ailments. Emissions of NO<sub>x</sub> generally come from the combustion of fossil fuels (coal, oil, natural gas) and from various economic sectors, mainly transportation and electricity generation.

Although ozone originally was thought to be a local problem, in the mid-1970s, evidence of its regional nature began to emerge, and by the 1980s, the phenomenon of “ozone transport” was widely recognized (National Research Council 1991). The movement of ozone from upwind to downwind locations complicated the efforts of downwind states to meet federal air quality standards. This was especially true in the northeastern states, which were experiencing persistent “nonattainment” of the National Ambient Air Quality Standards (NAAQS) for ozone. Regional policies clearly were needed, so in 1990 the U.S. Congress established the Ozone Transport Commission (OTC) under the Clean Air Act Amendments. The OTC consisted of representatives from Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia.

The OTC is designed to help the northeastern and mid-Atlantic regions reduce harmful ground-level ozone, specifically by cutting precursor NO<sub>x</sub> emissions. In 1994, the states participating in the OTC signed a memorandum of understanding (MOU) to develop a regional strategy for controlling NO<sub>x</sub>. The strategy that emerged was implemented in three phases. Phase 1 began in 1995 and relied on the traditional technology standards specified in the Clean Air Act, known as “reasonably available control technology.” Phase 2 began in 1999 and marked the beginning of emissions trading. Nine of the OTC states and the District of Columbia launched a cap-and-trade system known as the OTC NO<sub>x</sub> budget program. This phase lasted for four years, from 1999 to 2002. Phase 3 was scheduled to begin in 2003 and was designed to continue with emissions trading, but with more stringent emissions caps, specifically a 10 percent decrease in allowable emissions. Through each phase, the model rule’s regulations applied to more than 900 large electric generating units and more than 120 industrial facilities within the OTC region.

Although the OTC NO<sub>x</sub> budget program used a cap-and-trade approach similar to that of the federal acid rain program for sulfur dioxide, it was not a federally organized system but a set of coordinated state laws and rules. These rules were based on a template, known as a *model rule*, which was written by state representatives from the northeastern and mid-Atlantic regions in cooperation with the EPA. Once the model rule was completed, it then was modified to fit each state’s specific circumstances before it was adopted.

Sometimes the OTC states collaborated with the federal government in order to implement the NO<sub>x</sub> budget program. For example, the OTC asked the EPA to help develop and manage the data systems for the program. The EPA agreed to determine the data systems’ requirements, to select a contractor to create the data systems, to oversee the contractor’s work, and, eventually, to maintain the data systems and the accounts used by the regulated sources. The EPA’s motivation for helping the OTC, and specifically for creating the NO<sub>x</sub> data systems, was the OTC program’s potential expansion to additional states and thus the development of a larger trading system to address the nonattainment of the ozone NAAQS in the eastern United States (Donovan et al. 1996; Schlarly and Culligan 1996).

Although phase 3 of the OTC program was scheduled to begin in 2003, a broader federal program was instituted, known as the NO<sub>x</sub> state implementation plan (SIP) call emissions-trading program, or the NO<sub>x</sub> budget trading program. This system, which established emissions caps similar to those of the OTC’s phase 3, essentially incorporated the OTC NO<sub>x</sub> program into a larger trading pool that allowed other states to participate.

### Contrast between the OTC NO<sub>x</sub> Budget Program and the Federal NO<sub>x</sub> SIP Call

The OTC NO<sub>x</sub> budget program was a state-led effort created within the framework of federal/state air quality management (Portney and Stavins 2000). Nine states cooperated through an MOU and subsequent model rule that resulted in the implementation of a regional cap-and-trade program for NO<sub>x</sub>. Three states in the OTC chose not to participate in the program: Maine and Vermont had so few sources that they felt it was not worth the effort to develop the necessary regulations and instead enacted more traditional controls. By the late 1990s, Virginia had already achieved the ozone air quality standards and so did not enact a NO<sub>x</sub> control program. Finally, Maryland delayed its participation until 2000 because of a legal challenge.

Although the OTC NO<sub>x</sub> budget program was designed to help the states meet federal requirements for air quality, it was not federally mandated or scripted by a federal regulatory process. Rather, the federal government's role in the program was largely to offer technical assistance. The EPA helped draft the model rule, developed data systems for the program, and accounted for emissions and allowances once the program was running. In addition, the OTC NO<sub>x</sub> budget program relied in part on the requirements in title IV of the 1990 Clean Air Act (the acid rain program) for continuous emission monitors, with which most sources were already equipped.

At roughly the same time that the OTC states were designing their NO<sub>x</sub> trading program, a broader effort was under way to expand emissions controls throughout much of the eastern United States. Together with a number of midwestern states that also were facing air quality problems, the OTC states led a multistate study of ozone transport known as the Ozone Transport Assessment Group (OTAG). This was partly an attempt to create a larger state-led cap-and-trade emissions control program for NO<sub>x</sub> (Arrandale 2000; Farrell and Keating 2002). The OTAG worked for two years (1995–97) but was unable to develop broader emissions controls because many states contributing to the regional ozone problem, for example, Ohio and Kentucky, would not participate voluntarily. Because these states did not have local ozone problems at the time, they were not willing to impose emissions reductions on local sources solely for the benefit of downwind states.

After OTAG failed to arrive at a consensus on new controls, eight northeastern states filed petitions with the EPA to reduce the transport of ground-level ozone pollution. The petitions, which were based on section 126 of the Clean Air Act, asked the EPA to make a finding that upwind sources of NO<sub>x</sub> emissions, particularly in the Midwest, were exacerbating ozone problems in the petitioning states. At the same time, the EPA was revising the NAAQS for ozone and making the standard more stringent, thus necessitating greater emissions controls for many eastern states. Shortly after the "126 petitions" were filed, the EPA issued its "NO<sub>x</sub> SIP call," requiring significant emissions reductions by twenty-two eastern states and the District of Columbia and encouraging them to set up trading programs to achieve the reductions and satisfy the stricter NAAQS. Lawsuits ensued, most notably *American Trucking Association v. Whitman*, suggesting the futility of the earlier voluntary approach. Eventually, however, the EPA's actions were upheld. The NO<sub>x</sub> SIP call emissions-trading program essentially began in 2003, but only the OTC states participated because they had been prepared by their preexisting system. Full implementation of the NO<sub>x</sub> SIP call trading program did not take effect until May 31, 2004.

Stakeholders in the OTC NO<sub>x</sub> budget program had varying levels of interest and influence, depending on their stake in

the outcome, degree of organization, size, and resources. Furthermore, state-by-state differences among stakeholders led to different design preferences, including the size of the individual state caps. The state caps, or allowances, were apportioned in a manner that yielded a uniform burden throughout the OTC region. Once the state caps were set, however, each state could decide how it would allocate the allowances to the individual sources.

The allocation of emissions allowances was a major economic and political issue. Free historical allocations, or grandfathering, became the norm for the OTC NO<sub>x</sub> budget program, presumably because of political resistance to auctioning. The details of how the allocation was decided varied from state to state. For instance, between 1999 and 2002 Delaware, New Hampshire, New York, Pennsylvania, and the District of Columbia had fixed allocations. In contrast, Connecticut, Maryland, and New Jersey periodically adjusted their allocations according to various factors. Some states held public meetings, but others did not; and some simply issued regulations, while others used legislation.

One outcome of the NO<sub>x</sub> program's implementation is that it helped fracture industry's opposition to regulating air pollution, which was aided by the introduction of competition to the power industry (Farrell 2001). Before competition, the power sector was relatively unified in opposing new environmental regulation, but by the late 1990s, several northeastern power companies recognized that their interests diverged from those of midwestern and southern firms over NO<sub>x</sub> controls on upwind sources. The costs for the northeastern firms would rise because of the OTC NO<sub>x</sub> budget program, which gave a competitive advantage to the midwestern and southern firms. But they could eliminate this advantage by extending the regulatory program to the upwind states. The clearest example of this new division was the departure of several long-standing members of the Utilities Air Resources Group (UARG), a nationwide lobbying firm. These firms acted independently with various environmental groups to support greater emission controls on their competitors (NRDC/PSEG 1998).

In addition to the upwind/downwind split, potential new entrants to the northeastern electricity generation market had their own interests. These firms were less concerned with the location where new NO<sub>x</sub> control regulations would be applied than with the way in which new power plants would be treated. The main concern was that an emissions-trading program would bar their entry into the market by distributing all the allowances to existing firms. Thus the competing interests of the old versus the new emissions sources contributed to the fracturing of the regulatory position of the power industry.

**TABLE 9. NO<sub>x</sub> EMISSIONS-TRADING SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– Development of the necessary data systems for program administration was a significant step in allowing vertical diffusion to the federal level.</li> <li>– The example of a functioning state-based cap-and-trade system eased the development of the federal system.</li> </ul>
Cost data	○	<ul style="list-style-type: none"> <li>– The northeastern OTC program was so new and the SIP program followed so quickly on its heels that cost data did not have time to surface and play a part in decision making.</li> <li>– Cost data on program implementation or emissions abatement were not available or influential when vertical diffusion occurred.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– The OTC states were affected by pollution from upwind states.</li> <li>– The OTC states were incurring costs to control pollution that were not being incurred by those states and companies that were partly responsible for the problem.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– Nine states and the District of Columbia worked together as a region.</li> <li>– In the run-up to implementing their OTC program, the northeastern states tried to persuade the midwestern states to participate, but they failed.</li> </ul>
Federal assistance to states	●	<ul style="list-style-type: none"> <li>– The EPA provided significant technical assistance to the states by helping draft the model rule, developing emission data systems, and tracking emissions and allowances once the program was up and running.</li> </ul>
Business support federal action	●	<ul style="list-style-type: none"> <li>– The OTC NO<sub>x</sub> budget program, combined with the restructuring of the electricity industry in some states, fractured the electric utilities' interests along geographic lines.</li> <li>– Northeastern utilities worked to push for the federal NO<sub>x</sub> SIP call in cooperation with environmental groups.</li> <li>– Other utilities were ambivalent in their position on federal NO<sub>x</sub> controls.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– Northeastern states petitioned the EPA to identify midwestern states as a major source of NO<sub>x</sub> emissions. This action was designed to force the EPA to broaden NO<sub>x</sub> controls from a regional state-based program to a larger federal program.</li> </ul>

## Summary

The federal government was instrumental in initiating policies to reduce ozone pollution, first by setting air quality standards and then by establishing the Ozone Transport Commission to study the interregional nature of the problem. However, the main approach to reducing ozone pollution, a cap-and-trade system for NO<sub>x</sub> emissions, was first implemented by a group of states, with the federal government playing a supportive technical role. Efforts at broader control of NO<sub>x</sub> emissions had been stymied

by local political and economic interests, but the leading work by the northeastern and mid-Atlantic states had two important effects: (1) it fractured the industry's lobbying effort to prevent greater regulation of NO<sub>x</sub> emissions, and (2) it "paved the way" and encouraged the federal EPA's efforts to establish a superregional trading program. As a result, a state-based cap-and-trade program evolved into a federal program with similar features.

## CASE STUDY 5

## Organic Farming

Organic agriculture, the practice of using only natural, nonsynthetic agricultural inputs to produce crops and livestock, first gained attention in the early 1900s as a few farmers experimented with low-input farming techniques. Through the twentieth century, however, U.S. agriculture trends moved toward the increasing use of synthetic fertilizers, pesticides, and feed additives to take advantage of technological innovations and boost food production. Between 1948 and 1960, agricultural production increased at a rate of 1.12 percent annually, and fertilizer and pesticide use rose more than 4 percent annually. This trend has continued. In 1994, total U.S. agricultural fertilizer inputs climbed 121 percent over 1948 levels, and pesticide inputs increased by 782 percent in the same period (USDA 1998).

In 1964, Rachel Carson's book *Silent Spring* called attention to the environmental impacts of the escalating use of synthetic agricultural inputs. The biomagnification of pesticides such as DDT and their resulting unintended effects on animals raised public awareness of the issue. Water pollution from the agricultural runoff of pesticides and fertilizers was also seen as a problem of increasing importance. Simultaneously, research into low-input and organic agricultural practices was being conducted by several institutions such as the Rodale Institute. As the environmental movement gained momentum in the late 1960s, organic farming began to attract new and greater interest.

Until the early 1970s, there was no agreed-upon definition of organic agriculture, nor were there any standards to ensure the consistency and legitimacy of organic farmers' claims. To address these issues, in 1973 fifty-four California organic growers founded the first organic standards and certification group in North America, the California Certified Organic Farmers (CCOF). The CCOF established its own guidelines and definitions to certify farms and products as organic. Certified farms were then permitted to label certified organic products with the CCOF's logo. Informed consumers could then identify certified organic products that otherwise looked no different from conventional products. Through the 1970s, similar farm associations were formed throughout the United States, each creating its own organic definitions, certification guidelines, and labels. Although these rules often had common themes, their particular details varied.

As variation in third-party organic certification grew, concerns about consumers' confusion and the possibility of fraudulent or misleading certification programs caused state governments to get involved. Oregon enacted legislation defining organic agriculture in 1974, and California

followed in 1979. Both initiatives provided statewide, uniform organic standards but did not establish enforcement procedures. Instead, enforcement fell to third-party certifiers such as the CCOF in California and Oregon Tilth, which embraced the state standards, applied them to their certification procedures, and threatened offenders with lawsuits under their respective state statutes.

This model of state definitions and third-party certifiers continued as other states adopted rules or legislation defining organic, with twenty-five states doing so by the mid-1990s. Thirteen states, led by Washington in 1988, went further by adopting standards and implementing state-sponsored organic certification programs for crops. Four of these states also implemented certification programs for livestock. By 2001, fourteen state and thirty-nine third-party certification programs were operating in the United States (Greene and Kremen 2003). This continuing trend toward a greater diversity of standards quickly created a patchwork of state and private organic rules.

Meanwhile, by the mid-1980s the organic industry had grown considerably. What had been only a niche market in the 1970s had become a \$1 billion per-year industry in 1990. Consumers were increasingly concerned not only about the environmental impacts of their food choices but also about the health effects of synthetic pesticides and food additives. A case in point was the food additive Alar in apples and its purported connection with cancer, which drew considerable attention to organic foods (Baker 2005). Beginning in the late 1980s, retail sales of organic foods from natural food stores, the most common outlet for organic foods, rose by 20 percent annually (Emerich 1996). This accelerating demand combined with the patchwork of organic standards caused concern among those in the burgeoning organic industry that the value and integrity of the organic labels could be compromised. Further complicating matters was the increasing amount of interstate trade in organic products, which put similar products with different organic certification labels on the same shelves, thereby creating considerable confusion among consumers.

The only possible solution to the patchwork problem was uniform national standards. In 1990, organic farmers mobilized with states, consumer advocates, environmentalists, and animal welfare groups to pressure Congress to act. Up to this point the federal government had done little in the way of research on and promotion of organic agriculture and had never strongly considered drawing up national standards. The most significant pressure for federal action came from commercial organic interests, led by what

**TABLE 10. ORGANIC FARMING STANDARDS SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– The states' organic definitions and certification programs provided multiple models for federal adoption.</li> <li>– The states' twenty years of experience provided information for the federal program design.</li> </ul>
Cost data	○	<ul style="list-style-type: none"> <li>– The cost of setting or meeting organic food standards was not a factor in the push for federal action.</li> <li>– Concern was focused more on the costs of having no federal standards, and thus no empirical data were available to inform this position.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– State and private standards spilled over into other states through trade in food products, causing significant confusion as to what organic actually meant.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– By the mid-1990s, twenty-five states had rules or legislation defining organic.</li> <li>– This prevalence of diffusion was magnified by the diversity of regulations, which caused considerable confusion in the marketplace and was the impetus for the push for federal action.</li> </ul>
Federal assistance to states	○	<ul style="list-style-type: none"> <li>– The federal government provided no assistance to states to formulate organic standards and conducted only minimal federal research on the subject.</li> </ul>
Business support for federal action	●	<ul style="list-style-type: none"> <li>– The agriculture industry as a whole was mostly quiet on the issue of organic standards until after the federal government took action.</li> <li>– The organic agriculture industry pushed heavily for federal strong federal standards to reduce customer confusion, fortify the integrity of the organic label, and increase the market expansion for organic products.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– Although a few officials, such as those from Washington and Texas, did become vocal advocates for pushing organic standards to the federal level, trade groups and other interest groups were far more influential in securing the federal outcome.</li> </ul>

is now known as the Organic Trade Association (OTA), which made a federal organic bill its top priority. Some state officials did call publicly for federal action, most notably the heads of Washington's and Texas's agriculture departments (Mark Lipson, policy director, Organic Farming Research Foundation, personal communication, 2006). The efforts of the larger coalition of interests led by OTA and other farming coalitions, however, were critical to the final federal outcome.

Senator Patrick Leahy of Vermont became a leader on the organic issue and crafted the Organic Foods Production Act (OFPA), which called on the U.S. Department of Agriculture (USDA) to create uniform organic certification and labeling standards. Leahy's enthusiasm for national organic standards was due to the fact that his home state had the nation's largest percentage of total farmland under organic management. In order to ease its passage, Leahy inserted the bill on the Senate floor as an amendment to the farm bill, which then passed through conference and was ultimately approved by the Senate (60 to 36) (Rawson 2005).

The OFPA requires the USDA to formulate minimum organic standards and labels for all crops and livestock as well as processed foods containing organic ingredients. After reviewing the final standards, the states are permitted to issue their own standards as long as they are at least as strict as the federal rules. Like the state statutes before it, the OFPA requires the USDA to approve certification agencies like existing third-party groups and states to carry out actual certification duties. The OFPA also instructs the USDA to create the National Organic Standards Board (NOSB) to formulate the standards as well as construct a

national list of substances permitted and not permitted in organic production.

The NOSB took seven years to draft the initial standards which, once issued by the USDA, were greeted with criticism from the organic industry and consumer advocates. Their criticism was based on their view that the draft standards were far weaker than the current patchwork of state standards. The main points of contention were that the draft standards permitted the organic certification of products that were genetically modified, irradiated, or fertilized with sewage sludge.

Moreover, the draft standards were seen as an affront to the "purity" of the organic idea, and the subsequent public comments were contentious. Organic groups led the public outcry and, through various alliances, generated more than 250,000 formal public comments. The overwhelming majority of these comments called for organic standards that prohibited the practices just noted. The public response was by far the largest ever for a USDA regulation and resulted in the withdrawal and substantial revision of the draft standards (Ingram and Ingram 2005).

In 2000, the USDA issued its revised standards, which did not permit the cultivation of genetically modified products or the use of irradiation and sewer sludge, reflecting public comments. With little opposition, the standards were fully implemented and went into effect in October 2002. Since then, the organic industry has continued to grow steadily at an annual rate of 20 percent, and in 2003, U.S. organic sales topped \$10 billion (Rawson 2005).

## Summary

Even though organic farming was not a new concept, its growing popularity in the 1960s and 1970s resulted in a need for standards and labels to differentiate organic products from those grown with synthetic fertilizers and pesticides. Farmers' associations and other third parties created organic certification and standards to meet this need. In the 1970s the states became involved by providing statewide organic standards but originally left their enforcement to third-party certifiers. This trend changed in the 1980s when some states issued standards and required

farmers to obtain certification from state agencies. The resulting patchwork of standards issued and enforced by more than fifty third-party organizations and states caused confusion among consumers and concern among organic farmers that the organic idea, and thus their brand, might be compromised. Such concerns led to congressional passage of the OFPA in 1990 and the resulting USDA organic rule twelve years later. The OFPA permitted the USDA to formulate nationwide minimum standards that eventually reduced market confusion and facilitated the further growth of organic agriculture.

## CASE STUDY 6

## Vehicle Emissions Standards

Urban air pollution began initially from stationary sources such as factories and power plants, eventually gaining national attention in the 1940s (U.S. EPA 2004). At the same time, the rapid adoption of the automobile caused mobile air pollution sources to quickly become a significant factor in air quality.

The problem of mobile-source air pollution was most acutely felt in Los Angeles, the first U.S. city to experience major smog events, beginning in the summer of 1943 (CARB 2004a). Little was known about the causes of this phenomenon, and stationary sources like refineries and factories with visible air pollution emissions were blamed. In response to the state's growing air pollution problems, California's governor, Earl Warren, signed the Air Pollution Control Act into law in 1947, which established an air pollution control board in every county in the state. The local control boards then passed several ordinances aimed at reducing pollution from stationary sources but did nothing to address mobile sources, as no connection had yet been made between vehicle emissions and air quality. Local measures in Los Angeles at this time did nothing to alleviate air pollution problems.

Federal action to this point was restrained and consisted solely of funding research on air pollution. The federal Air Pollution Control Act of 1955 (PL-84-159) and its 1959 reauthorization enabled even more research on smog, its causes, and its health effects but left pollution control up to state and local governments. This research eventually identified two by-products of fossil fuel combustion, volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>), now known to be ozone precursors, as the most significant air pollutants in the Los Angeles basin. These compounds were created in large amounts by the increasing numbers of automobiles and the frequency of their use. Automobile manufacturers refuted such findings and simultaneously claimed that there was no affordable and economically feasible way to control the emissions in question. Meanwhile, the problem of smog became evident in other California and U.S. cities, such as New York.

The federal trend of addressing the air pollution problem only through research funding changed with the federal Clean Air Act of 1963 (CAA). This act authorized the federal government to establish state air quality criteria at the request of a state or if interstate pollution were sufficiently harmful. This shift reflected the growing frustration with local governments in handling air pollution as well as the growing understanding of the problem's interstate nature.

The nation's first tailpipe emissions standards to combat smog were authorized by California legislation in 1960. The new law required the California Department of Public Health to formulate emission standards for vehicles. In 1961, in accordance with the statute, a first-of-its-kind mandatory technology standard was implemented, requiring all cars sold in California to have positive crankcase ventilation (PCV) systems installed to reduce hydrocarbon emissions. The PCV mandate entered into effect in the model year 1963 and met little resistance from manufacturers, some of which had already voluntarily installed PCV devices before the mandate (Krier and Ursin 1977). Soon afterward, California set the first tailpipe emission standards for VOCs and carbon monoxide (CO), which applied to model year 1967 vehicles.

Even though manufacturers did little to resist these initial efforts in California, they did warn that the higher cost of meeting the new standards would result in higher prices for vehicles. Apparently no formal price analysis was conducted to identify the empirical consequences of California's regulations, although a recent analysis of cost and price data from this time period found that the regulatory compliance costs were only a small part of the greater vehicle cost and only one of several factors influencing it (Sperling et al. 2004). Empirical data do not appear to have been available to inform the federal debate, but manufacturers made vocal claims that any regulation, and particularly a state regulatory patchwork, would result in unacceptable costs to the automobile industry, claims that continue to this day (NRC 2006).

When the new California regulations were implemented, the state leadership, including the governor, Edmund Brown, called for federal intervention, claiming that automobiles were the main source of air pollution and that the federal government had clear jurisdiction to regulate the industry, as it was in interstate commerce. At the same time, bills were submitted in the Pennsylvania and New York legislatures to regulate vehicle emissions. All this caused the automobile industry to end its opposition to regulations and to call for federal action that would preempt all state regulations (Krier and Ursin 1977).

The first federal emission standards were authorized under the federal Motor Vehicle Pollution Control Act of 1965, which amended the CAA to mandate emission control technology for model year 1968 vehicles. This mandate resulted in standards nearly identical to California's existing PCV, CO, and VOC standards but did not establish any explicit preemption of state authority over pollution control.

**TABLE 11. CALIFORNIA VEHICLE EMISSION STANDARDS SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– California promulgated the first technology standards to control vehicle emissions.</li> <li>– Subsequent federal standards were nearly identical.</li> <li>– Vehicle regulations were shown to be feasible, even though their overall environmental effectiveness was limited.</li> </ul>
Cost data	○	<ul style="list-style-type: none"> <li>– Empirical cost data from the first rounds of California's regulation apparently were not influential during the initial federal regulatory activities.</li> <li>– Empirical cost data were available but did not play a central role.</li> <li>– The perceived costs of multiple regulations dominated the debate over whether the federal government should take action.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– At first, nonregulated cars from out of state could be brought into California, thereby undermining pollution rules.</li> <li>– California and the federal government's varying standards placed a burden on manufacturers to sell different cars inside and outside California, thereby preventing full economies of scale.</li> </ul>
Horizontal diffusion	○	<ul style="list-style-type: none"> <li>– During the initial round of diffusion in the 1960s, only California adopted vehicle emission standards.</li> </ul>
Federal assistance to states	●	<ul style="list-style-type: none"> <li>– Significant federal research funds were given to California and local air pollution agencies to study the problem.</li> <li>– These studies led to the identification of vehicle emissions as the major source of smog in the state.</li> </ul>
Business support for federal action	●	<ul style="list-style-type: none"> <li>– Initially there was no business support for federal action; however, once California passed its own regulations and other states became poised to follow suit, the motor vehicle industry did support full federal preemption to establish one nationwide standard.</li> <li>– Manufacturers were united in full preemption but did not fully support the compromise outcome that granted special status to California.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– The governor of California, delegates to the state assembly, and agency officials all called publicly for federal action, with an exemption for California.</li> </ul>

Despite the new emission control regulations, California's and the nation's air quality worsened over these fifteen years of state and federal action. The state began looking into options for stricter standards, as federal law did not clearly bar it from doing so. The automobile manufacturers were against stricter standards but feared the possibility of several diverse state standards. Conversely, California opposed the full federal preemption of its regulatory authority to address the worst air pollution in the nation. California state air pollution control officials as well as delegates to the state assembly lobbied members of Congress, pressuring them to maintain California's authority to set stricter vehicle standards (NRC 2006). The federal Air Quality Act (AQA) of 1967 provided a compromise in which federal regulations preempted all state authority with the exception of California. California was free to implement stricter regulations as long as they took into account technological feasibility and economic costs and were approved by the federal government. The AQA also added new vehicle emissions standards for several pollutants.

Acting swiftly to exercise its new authority, California passed new and stricter standards in 1968 and secured federal waivers that same year. Federal standards received a substantial upgrade with the Clean Air Act of 1970, which set new and stricter standards. These two parallel standards have been the foundation for more than thirty-five years, with the federal standards becoming increasingly strict and California standards even more so.

The regulatory waiver for California has remained intact as several amendments to federal air quality statutes have

required even stricter emissions standards. Two significant developments regarding California's exemption were included in the Clean Air Act Amendments of 1977. First, recognizing that certain control measures for one pollutant may actually hinder the control of others and that specific pollutants can be more problematic than others in different regions, changes were made to allow California's standards to be stricter in the aggregate than federal standards. That is, California's standards may actually be less strict for any one pollutant, but overall the standards must be stricter than the existing federal standards in order to be eligible for a waiver. Second, the amendments to the Clean Air Act allow other states to adopt stricter emission standards, provided that they are identical to California's. This opt-in provision was reinforced in the CAA amendments of 1990, permitting states in nonattainment regions to adopt California's Low Emission Vehicle I and II standards (U.S. EPA 1993). Several states, including Washington, Oregon, Massachusetts, New York, New Jersey, Connecticut, Rhode Island, and Vermont, have adopted the standards. Industry has opposed the states' efforts to choose California's higher standards, based on the claim that compliant vehicles will cost consumers more money.

California's emission standards have produced results, as the air quality in Los Angeles has improved to levels not seen in more than fifty years. But the region is still far behind the federal standards for ozone (U.S. EPA 2005b). New automobiles are now 99 percent cleaner than they were in 1970 (AAM 2005). Moreover, the opt-in provision of the 1977 CAA has allowed several other states to gain the benefits of stricter emission standards.



## Summary

The rapid development of Los Angeles and its dependence on automobiles, combined with local geography, caused the city to be the first to experience severe urban air pollution. This in turn spurred the state of California to act before the federal government did, since the pollution was viewed at first as a local problem and not a national phenomenon. The political will for action in California allowed the state to overcome industry opposition and uncertainties about emission control costs to issue first-in-the-nation vehicle emission control standards. The federal government facilitated the state's actions indirectly

through research funding. Then, as urban air pollution quickly spread to become a national problem, California's early actions allowed the federal government to adopt similar regulations with more confidence. As the pollution problem became more severe, California pushed hard to maintain its regulatory autonomy, even though industry stakeholders were opposed to multiple standards. Ultimately a compromise was reached, permitting California to keep its regulatory power to implement stricter standards, and other states were eventually allowed to adopt California's standards.

## CASE STUDY 7

## Divestment from South Africa and Burma

Over the past thirty years, state and local governments have played more active roles in foreign policy issues (Sager 2001). For example, states and localities have gone on record declaring nuclear-free zones, providing sanctuary for illegal immigrants, refusing to send National Guard units to Honduras, and expressing their views on highly charged issues that crossed the traditional boundaries of domestic policy. None of these initiatives caused more controversy and potential policy change than state and local sanctions on firms doing business with repressive regimes in such nations as South Africa and Burma (now known as Myanmar).

The U.S. Constitution has traditionally been interpreted as limiting states' powers in the international arena. The commerce clause and the president's treaty-making powers are two provisions that can be cited to buttress the supremacy of the national government in foreign affairs. Nonetheless, notwithstanding this traditional federal role, state and local governments have been tempted to become more involved in international issues, especially in economic policy issues. As the U.S. economy becomes more globalized, the economies of many states and localities are also being shaped by policies and trends forged by other nations either acting alone or in concert through trade agreements. Indeed, state and local governments have sought greater trade opportunities by attracting the business of foreign-owned firms throughout the world. Even those that do not search for greater international investment cannot ignore the growing encroachment of trade agreements on state and local regulatory and procurement policies, such as the pressure to preempt state and local procurement sanctions under the World Trade Organization (WTO).

For the most part, however, the state and local policy pronouncements on foreign affairs as well as their initiatives to indirectly influence the policies of U.S. diplomacy regarding repressive regimes do not stem from traditional motivations to enhance their citizens' economic interests or jurisdictional prerogatives. Rather, these foreign policy initiatives originate in expressive and symbolic policy actions to advance political concepts of justice and human rights on a global stage. The growing linkages of interdependent economies give state and local governments policy leverage to pursue these symbolic initiatives, with the policy target being not the behavior of firms toward state residents or employees but, rather, the policy of the United States with regard to foreign governments and the policies of those governments themselves with regard to their own peoples (Kline 1999).

### South Africa

A broad coalition emerged in the 1970s and 1980s to encourage a stronger official U.S. policy condemning and ultimately undermining the repressive regime in South Africa. A group of Washington-based anti-apartheid and civil rights leaders launched the Free South Africa movement to attract support for the passage of legislation by Congress. This movement crystallized a growing campaign bringing together a wide range of groups, including many grassroots anti-apartheid organizations, to apply public pressure on the U.S. government to change its position on apartheid. Among this diverse coalition were many universities, which used both public position taking and the divestiture of their investments from companies doing business with the apartheid government.

Through much of the 1980s, the sanctioning of the South African regime proved to be a partisan lightning rod. The Reagan administration firmly opposed actions that would amount to punishing South Africa, concerned about the potential negative influence on U.S. companies' competitiveness and the potential growth of Soviet influence in southern Africa. President Reagan relied instead on a policy of "constructive engagement." In 1985, he introduced a series of limited economic sanctions in a presidential executive order, which was issued only to forestall Congress from adopting even harsher measures. Although Congress still passed the Comprehensive Anti-Apartheid Act of 1986 over the president's veto, the Reagan administration did little to gain cooperation from other countries and refused to support the United Nations' mandatory international sanctions against South Africa. Support in the Democratic-controlled House for sanctions was strong. Political leaders across a broad spectrum came to believe that the president's approach had failed to achieve its goals. Following negotiations with the Republican-controlled Senate, Congress passed the Comprehensive Anti-Apartheid Act of 1986 over President Reagan's veto. This act prohibited U.S. trade and other economic relations with South Africa.

State and local governments played a key role in stimulating the enactment of federal sanctions in this case. More than 150 state and local governments passed sanctions before the 1986 federal legislation went into effect. One of the first campaigns against South Africa began in Berkeley, California. The goals of this state and local movement were both expressive and instrumental: (1) to reach national policymakers by means of high-profile actions demonstrating broad-based support for a shift in the nation's policy toward South Africa and (2) to reach major U.S. corporations in the hope that they would pull their business from

that nation and that this would cripple the regime. The first goal was addressed through the divestiture of state and local pension fund holdings in firms violating anti-apartheid business principles, the so-called Sullivan Principles. Although the financial impacts of these actions were viewed merely as marginal in a global marketplace, they did achieve a symbolic goal of making a statement that could be carried to national policymakers. The second goal was addressed through state and local procurement policies. By refusing to bid contracts to firms doing business in South Africa, these policies placed those firms that were dependent on these contracts in a real business dilemma of losing lucrative government contracts or abandoning overseas markets.

There is some evidence that these actions did force many firms to reduce their South African operations (Kline 1999). Although these firms' decisions were prompted by the deteriorating South African economy, among other factors, these procurement sanctions reportedly played a role in forcing scores of U.S. multinationals—including such giants as Coca-Cola, IBM, and General Motors—to withdraw from South Africa. Perhaps the most important legacy of the anti-apartheid movement was the model that it provided for subsequent state and local initiatives to change foreign policy toward other nations like Burma, Northern Ireland, and China.

## Burma

Burma's regime has come under worldwide scrutiny and approbation for its human rights abuses and repression of democratic forces. Forced labor, torture, rape, and executions were reported to be common practices by international organizations, but the regime became a global policy issue when it refused to recognize the results of the 1990 elections, instead detaining the leader of the winning party, Aung San Sun Kyi. This brought the issue to the United States' national policy agenda, leading to widespread calls for U.S. boycotts, sanctions, and other pressures on the regime itself as well as on companies doing business with Burma.

Reflecting the U.S. frustration over its inability to force domestic political changes on Burma, Congress, supported by an impressive bipartisan political movement, launched a legislative assault on this Southeast Asian country. Numerous resolutions, amendments, and bills condemned the military regime in Burma and threatened economic sanctions against it and funding for pro-democracy programs in that country. Indeed, based on press attention and coverage in the *Congressional Record* in the early 1990s, Burma seems to have become one of Washington's top foreign policy concerns.

In 1990 Congress passed the Customs and Trade Act, enabling the president to impose new sanctions against

Burma, which President George H. W. Bush declined to do. In 1993 the Senate passed a resolution calling on President Bill Clinton to work for the immediate release of the Burmese opposition leader Sun Kyi and for the adoption of a United Nations embargo against Rangoon (now known as Yangon). President Clinton expressed support for the resolution but did not take any serious steps to implement it.

Finally, in the Republican-controlled 104th Congress of 1995/96, both the Senate and the House of Representatives threatened strong legislative measures to deal with Rangoon. The 1995 Free Burma Act, introduced by Senator Mitch McConnell (R-KY), called for the imposition of stiff economic and trade sanctions on Burma, as well as on those countries trading with and giving aid to that country (a provision that was later deleted). Similar legislation, the Burma Freedom and Democracy Act, was introduced in January 1996 by Representative Dana Rohrabacher (R-CA). Later in 1996 a successful amendment by Senator Dianne Feinstein (D-CA) and Senator William Cohen (R-ME) to the fiscal year 1997 Foreign Operations Appropriations Act permitted the president to determine if and when to impose sanctions against Burma. The measure gave the administration the diplomatic flexibility to decide whether Burma's government, the State Law and Order Restoration Council (SLORC), had improved its human rights policy.

Earlier, the Clinton administration had tried to respond to congressional pressure by announcing various reviews of its Burma policy and sending State Department officials to Rangoon. It argued that some form of diplomatic cooperation with Rangoon on human rights, democratization, and counternarcotics measures could produce positive results, asserting that the regime's response to the U.S. approach was "mixed." For example, Aung San Sun Kyi and other political prisoners were released, and Rangoon agreed to cooperate with U.S. counternarcotics efforts, including a survey of opium production.

President Clinton and his top economic and national security advisers were not enthusiastic about the sanctions. The administration was worried about the effect of the move on the position of U.S. companies operating in Burma as well as on Washington's relationship with the Association of Southeast Asian Nations (ASEAN).

America's ASEAN allies argued that only a dialogue with the regime in Rangoon would lead to political changes in Burma. Without engagement with the ASEAN, its members argued, the country might form closer ties with China, a development that would pose a direct strategic threat to Vietnam and an indirect one to the United States. But none of those strategic considerations was enough to dissuade the administration from imposing sanctions.

The rising political repression and growing congressional pressure on the administration forced President Clinton—

following months of public and bureaucratic debates, including leaks to the press warning the business community of impending U.S. action—finally to “do something.” And since the administration concluded that the military junta’s political repression had become even harsher, it decided to move ahead with the sanctions.

On May 20, 1997, President Clinton issued Executive Order 13047, which took effect on May 21, banning most new U.S. investment in “economic development of resources in Burma.” To justify the ban, the president cited the “constant and continuing pattern of severe repression” of the democratic opposition by Burma’s ruling junta. Clinton said the regime had “arrested and detained large numbers of students and opposition supporters, sentenced dozens to long-term imprisonment, and prevented the expression of political views by the democratic opposition.” Clinton stressed that under Rangoon’s “brutal military regime, Burma remains the world’s leading producer of opium and heroin and tolerates drug trafficking and traffickers in defiance of the views of the international community.” He added that relations between the Burmese government and the United States would improve only if there were “a program on democratization and respect for human rights” (Clinton 1997).

### The Role of State and Local Governments

Just as national leaders were prompted to deal with the regime in the early 1990s, state and local officials were persuaded as well. Press and pressure-group attention spurred various state and local governments to pass laws that prohibited U.S. and foreign companies that traded with and invested in Burma from receiving public contracts in their jurisdictions or that restricted their ability to do so. The state and local governments’ mobilization in the campaign against Burma was modeled on bills adopted in the mid-1980s that targeted South Africa’s apartheid regime. Among the state and local governments that joined the Burma campaign by passing or considering “selective purchasing ordinances” were the Commonwealth of Massachusetts; the cities of San Francisco, Oakland, and New York; and several other local governments, including those of the small, liberal college towns of Madison, Wisconsin, and Berkeley, California. All together, at least a dozen cities passed anti-Burma legislation. A number of universities and other academic institutions jumped on the anti-Burma bandwagon by divesting their stock in companies that did business in Burma. In fact, some companies, including Apple, IBM, and Kodak, even left Burma.

The statute passed by Massachusetts became the most controversial of these initiatives, ultimately prompting a U.S. Supreme Court ruling that invalidated it. The leader of the Massachusetts movement, Democratic state representative Bryon Rushing, had written the state’s South Africa sanctions legislation, on which he patterned the Burma law.

While aimed at changing the regime’s policies, ultimately Rushing’s underlying goal was, as he said, to place the issue on the U.S. State Department’s foreign policy radar screen.

Indeed, there is evidence that this particular procurement statute received extraordinary notoriety on the national level, fueling the growing movement to enact national sanctions. Even the appellate court ruling that the state’s law was unconstitutional took pains to note that the Massachusetts law may have been the “catalyst” for federal sanctions. It may be more accurate to note, however, that this 1996 state initiative was in fact coterminous with other national-level forces moving toward the sanctions adopted by President Clinton in 1997.

Ironically, the Massachusetts law may have had a greater impact in prompting the countermobilization of business and other interests concerned about the growth of state policy assertiveness in foreign policy and trade issues. The growth of state and local sanctions placed Washington on a collision course with foreign governments and firms and created a headache for U.S. companies.

A powerful Washington probusiness lobby group, the National Foreign Trade Council (NFTC), mounted an intense campaign in a Massachusetts court and among Washington policymakers to overturn the law. The leader of that organization testified that a number of member companies had withdrawn from doing business with Burma in order to continue doing business in Massachusetts, whereas others had withdrawn from doing business with Massachusetts in order to keep doing business with Burma.

The NFTC also had some international players on its side. Both Japan and the European Union had taken issue with the Massachusetts law, saying it conflicted with international procurement codes. The EU filed a case with the WTO, arguing that the Massachusetts law violated international trade rules, which had just been extended to cover U.S. states. Although many states and the Massachusetts governor endorsed the trade accord, which pledged states to guarantee nondiscriminatory treatment to foreign firms in contract bidding, this treaty was not approved by state legislatures. In an unprecedented action, senior EU officials met with the Massachusetts legislative leader, Rushing, to negotiate a more acceptable version of the sanctions that would pass muster under WTO, but the negotiations did not succeed.

The most important threat to the Massachusetts legislation came from the courts. The NFTC coalition challenged the constitutionality of the law, claiming that it threatened to usurp federal foreign policy powers, burdened international commerce, and was preempted by sanctions approved by President Clinton. In a 2000 case, the U.S. Supreme Court struck down the Massachusetts law in a unanimous ruling. Carefully avoiding the constitutional arguments,

**TABLE 12. BURMA AND SOUTH AFRICA SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	– The state laws were at least partly responsible for raising the issues on the national agenda and ultimately prompting a change in national foreign and trade policy. However, unlike other innovations, the federal policies did not adopt the detailed state policy models.
Cost data	●	– The costs to business of complying with state bans on investment were a factor in the business coalition and European trade opposition to state bans on investment in Burma. – Although the cost of state bans was central to the federal debate, it did not diminish support federal action enough to prevent diffusion.
Spillover effect	●	– The states' bans had primarily a symbolic rather than an economic effect—unlike other cases, the active states' bans were not undermined by the inaction of other states. The implications of the states' bans for global trade treaties and the financial effects on large firms did have an effect, however, on the debate that prompted the Court's ruling banning state actions.
Horizontal diffusion	●	– State and local bans were often adopted by emulation through horizontal diffusion. The presence of bans by a critical mass of states and other institutions was a catalyst in placing the issue on the national agenda. Moreover, the ban on state procurement for businesses investing in prohibited nations was a factor in changing these firms' investment overseas.
Federal assistance to states	○	– Federal assistance to states was not present in this case.
Business support for federal action	●	– While business did not support the ban at the state or national level, its opposition helped delay the national ban. Moreover, business opposition to state involvement bore fruit in the U.S. Supreme Court's ban of state and local investment restrictions in 2000. – Some businesses complied with state bans and therefore did not actively support or oppose federal action.
Push for diffusion by state champions	●	– State leaders in states with bans were strong players in bringing the issue to the federal level. However, the state leaders' initiatives coordinated more closely with the actions of many other national-level actors pursuing the same policy goals.

the Court simply held that the law was preempted by federal statutes and the president's executive order imposing sanctions on the regime.

## Summary

State and local government sanction initiatives clearly were instrumental in shifting the agenda for national foreign policy toward repressive political regimes. Such initiatives illustrate how state and local government policies can serve hortatory and symbolic roles by giving voice to policy actors frustrated with slow or gridlocked institutions at the national level. These cases show that foreign policy is no longer out of bounds for increasingly assertive and entrepreneurial state and local officials. These cases also suggest the growing interdependence of policy agendas at all levels of government in our system—it is not possible to say for sure which came first, the state and local chicken or the national egg. The fact is that national policy groups, observers, think tanks, and citizen groups do not respect boundaries as much as they did in the past. Rather, they engage in increasingly efficient and opportunistic “venue shopping” in our system, marketing their ideas to a new generation of eager idea entrepreneurs in state and local governments anxious to make a mark on a national and even international stage on a range of issues beyond the ken of conventional domestic policies and programs that those governments have been traditionally assigned in our system.

However, these cases also point to the thicket of new policy and institutional dilemmas and challenges that such policy leadership brings to ambitious state and local

officials and their allies. Powerful business and foreign governmental interests will be at the ready to challenge these initiatives in legal and international adjudicatory settings that are not familiar turf for state and local officials. Even a Court friendly to federalism and restoring states to their traditional position in our system ruled unanimously that the Massachusetts sanctions were preempted by existing federal law. The WTO and the new trade agreements ushered in by the Uruguay Round portend a new set of challenges to state and local policy entrepreneurs who would like to use state policy levers to make “statements” or influence corporate behavior to promote international policy goals. The selective use of procurement powers to implement policy goals at the expense of certain firms and nations may very well be constrained or outright prohibited in globalized policy settings.

In such environments, the rules are still in flux. For instance, the Court preempted the Massachusetts statute on Burma because there was a clear federal law and executive order addressing the same issue. The scope of permitted state and local initiatives is much less clear in the absence of expressed federal policy; a condition that often exists when state or local governments begin the innovation process. In some respects, the fact that states were not prohibited constitutionally by the Burma ruling may be good news for state officials. In some respects, the Court left the door ajar for the states to continue to exercise policy leadership even in foreign policy and economic transactions which, many argue, are clearly in the federal ambit. The scope and effect of trade agreements have yet to be played out, and these may indeed constitute a greater potential barrier to state policy innovations in the future.

## CASE STUDY 8

## Education Testing

The No Child Left Behind Act (NCLB), signed in January 2002 by President George W. Bush, marks the most significant expansion of the federal role in education in U.S. history. The act requires the states to establish an accountability framework to assess, by means of annual testing, the performance of all students in grades 3 through 8 based on state standards. Assessment results and state progress objectives must be distinguished by poverty, race, ethnicity, disability, and limited English proficiency to “ensure that no group is left behind.” School districts and schools that fail to make adequate yearly progress (AYP) toward statewide proficiency goals will, over time, be subject to improvement, corrective action, and restructuring measures aimed at getting them back on course to meet state standards. Local school districts must give students attending schools identified for improvement the opportunity to attend a better public school or to use federal funds to obtain supplemental education. Schools with persistent shortfalls in testing face restructuring under state guidance.

The impetus for reform was the competition from party leaders for leadership in education. Although President George H. W. Bush pledged to be an education president in his 1988 campaign, in the 1990s Republicans retreated and denounced federal activism in education. The House Republicans who took over in 1995 made abolishing the Department of Education one of their signature themes, a slogan that was repeated in the 1996 elections by the Republican presidential nominee, Senator Robert Dole (KS).

Conservative Republicans saw any increase in federal involvement as a threat to local control of the schools and tried to minimize the intrusiveness of federal directives and enforcement efforts. Although they supported standards, testing, and accountability reforms, they believed that they should be established at the state rather than the federal level. But the Democrats tried to keep the federal role centered on school inputs rather than on school outputs or governance issues.

In the late 1990s, political pressures pushed the two parties closer to the center. All the polls showed that the public saw Republicans as against education, even though it was becoming a more important national political issue. As a result, in the late 1990s, congressional Republicans dropped their proposals to eliminate the Department of Education and to cut federal education spending, and put forward their own vision of federal educational leadership. In an effort to appear more progressive to voters, Republicans also appropriated more money for education than President Bill Clinton had requested, and between 1996

and 2001 federal spending on grades K through 12 education rose higher than it had been since the 1960s.

Republican activism represented a major political and policy challenge for the Democrats, who for the first time were forced to respond to a comprehensive alternative national reform plan. The Democrats’ response was shaped by a growing recognition that money was a necessary but not a sufficient consideration for improving education and that the voters wanted more meaningful reform. The Democratic Party moved away from its focus on inputs and equity and toward a focus on standards, accountability, and public choice.

This confluence of political developments ended the debate over whether the federal government should have a role in education and created an opening—a “policy window” in John Kingdon’s terms—for bipartisan discussions about a centrist compromise that would establish a new reform-oriented federal education policy regime (Kingdon 1995). Actually, many of the reform ideas that later formed the core of the 2002 No Child Left Behind Act—such as standards, assessments, adequate yearly progress, school report cards, and corrective action—can be found in the 1994 Elementary and Secondary Education Act (ESEA) Amendments. The ambitious requirements of this act were not, however, successfully enforced or implemented by the states.

Scholars trace the roots of the NCLB to earlier state education reform efforts. One observer, Paul Manna, offered a “bottom-up agenda setting” model to explain the passage of the NCLB and argued that the states’ activity on education reform put pressure on the federal government to embrace standards, accountability, and choice (Manna 2006).

In 2000, forty-eight states had standards and tests in place, and thirteen states were testing students between the third and eighth grades every year in reading and math. By 1997, thirty-one states had established standards in the core areas of English, mathematics, science, and social studies. By 2001, only three states had not adopted academic-content standards in the four subject areas (Wong 2006). The states’ increasing activity prompted the governors to support national standards and testing as early as 1990 at a Charlottesville, Virginia, summit with President George H. W. Bush. Their decision was partly due to national political ambitions and desire to replicate state policies on the national stage. Many governors also hoped that national standards would bolster the support of their state legislatures for state accountability models.

**TABLE 13. EDUCATION TESTING SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– The federal law was preceded by several decades of state experiments with testing and standards. The Texas program, among several others, provided a model for the No Child Left Behind program.</li> <li>– Evaluations suggested favorable outcomes from state initiatives.</li> </ul>
Cost data	○	<ul style="list-style-type: none"> <li>– The costs of standards were discussed in the debate, but the earlier, extensive state programs blunted these arguments by suggesting that the infrastructure was already in place.</li> <li>– Although empirical cost data were available, they were not influential in the debate.</li> </ul>
Spillover effect	○	<ul style="list-style-type: none"> <li>– The presence or absence of state education reforms and standards had little spillover effect. The progressive states' initiatives were not undermined by the inactions of others.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– Forty-eight states had standards and tests in place before the federal law, and thirteen states were testing students between the third and eighth grades every year in reading and math. This indicates that the federal standards were following, not leading, the states' practice.</li> </ul>
Federal assistance to states	●	<ul style="list-style-type: none"> <li>– Previous federal programs had a modest impact on promoting the state education reform movement and the federal debate. The 1994 ESEA amendments had already established the foundation by requiring the states to move in this direction.</li> </ul>
Business support for federal action	●	<ul style="list-style-type: none"> <li>– The national business community shared the governors' enthusiasm for national standards, joining them at the Charlottesville summit and other forums to strategize how to enhance accountability in education at the national and state levels.</li> <li>– This business support was prevalent but not entirely influential in the vertical diffusion of education standards.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– As early as 1990 the states' increasing activity prompted governors to push for national standards and testing at the Charlottesville summit with President George H. W. Bush. Their actions were partly due to their national political ambitions and desire to replicate their state policies on the national stage.</li> </ul>

State innovations are transferred to the federal level more directly when state officials become national leaders. For example, while he was governor, President George W. Bush became convinced of the efficacy of accountability in reforms in education while observing the effect of TASS (Texas Assessment of Academic Skills) tests.

The national business community shared the governors' enthusiasm for national standards and joined them at the Charlottesville summit and other forums to strategize how to enhance accountability in education at the national and state levels. Business depends on schools to help lure and retain employees and to train its next generation of employees and customers. Concerned about the low quality of the workforce and motivated to create a more attractive business environment in their communities and states, business groups viewed accountability as a linchpin of school improvement.

The laboratories model may also help explain how state accountability models expanded to the federal level. On the one hand was evidence that federal spending and programs had failed to improve the performance of disadvantaged students and that the performance of mainstream students had deteriorated. On the other hand, a high-profile study of state National Assessment of Educational Progress results suggested that states with standards and testing, such as Texas and North Carolina, were able to raise their test scores higher than the scores in other states.

Although the federal policy drew its inspiration and design from state reforms, this by no means guaranteed that it would reflect the states' policies. In fact, even in

those states that had standards and tests in place, there were few consequences for schools that failed to perform well. While building on state models, the NCLB went well beyond the states' own programs, imposing significant new intergovernmental burdens and tensions in state education programs. Eventually the enthusiasm for a new national commitment to education reform championed by the governors soured when the partnership reflected in the Charlottesville summit was transformed into a centralizing federal policy initiative, replete with regulatory constraints on and mandates for states accepting federal funds.

During the implementation of the NCLB, the intergovernmental community has become increasingly concerned about federal standards and insufficient funding. Opposition to the law has been most pronounced among those states (such as Virginia) that had most aggressively adopted standards-based reforms. Even during the development of the NCLB, local officials opposed national regulation; teachers' unions opposed testing; and conservatives opposed the omission of vouchers. State officials protested that the law did not give the states enough federal money to meet the educational goals. In 2005, the National Education Association and school districts in Michigan, Texas, and Vermont filed suit against the federal government, claiming that the NCLB was an unfunded mandate. And the state legislatures in Utah, Vermont, New Hampshire, Hawaii, and Maine prohibited their states from spending any of their own funds to implement NCLB (Janofsky 2005).

## Summary

State programs initially were the stimulus for federal interest in a national education program, and the federal government drew on state policies when designing it. The federal education program, however, far exceeded the states' programs. For instance, although the states had high

standards, they did not hold themselves accountable for not reaching them. But the NCLB imposes serious penalties for not achieving educational standards. Finally, although federal funding for education has increased substantially, the states have been left with a greater fiscal burden to finance higher costs of reform.



## CASE STUDY 9

## Enterprise Zones

The idea of enterprise zones first came to America from the United Kingdom around 1980. Enterprise zones are designed to encourage investment and economic growth in distressed communities by cutting the taxes on investment and employment in these neighborhoods and reducing regulations. In 1982, Connecticut became the first state to create enterprise zones (Butler 1989), and by 1991, thirty-eight states and the District of Columbia had similar programs (Peters and Fisher 2002). In the 1980s, the enterprise zone issue continually bounced on and off the federal agenda. In 1980, President Ronald Reagan announced his intention to pass a program, and his bill attracted bipartisan support at the time. The Congressional Black Caucus, the National Urban League, and the NAACP offered their support, as did many state and local organizations.

Republicans have generally been the chief proponents of enterprise zones. Stuart Butler, now the deputy director of the Heritage Foundation, transformed this British concept into an American version, thereby popularizing the concept among conservative policymakers. Jack Kemp, a leading Republican congressman (NY) and later the secretary of housing and urban development under President George H. W. Bush, became a champion of the program as a way to revive poor neighborhoods by tapping market forces through incentives.

In 1987, Congress cleared an authorization bill, and President Reagan signed it into law in early 1988 (Austin 1993). But it provided no tax breaks and little federal funding. In 1990, the idea of enterprise zones was revived, when the Democratic congressman Charles Rangel (NY) introduced the Bush administration's proposal in the House. Legislation finally passed in 1992, but for other reasons, President Bush vetoed the final bill containing the zone program (Mossberger 2000).

National legislation gained renewed impetus from the Los Angeles riots in 1992 as national policy officials from both parties raced to appear responsive to this new national crisis. With both parties finally supporting the concept of enterprise zones, the program was passed in 1993, with the support of the Clinton administration, as a way to demonstrate its commitment to embrace new policy approaches. The president signed the bill, which included \$2.5 billion in tax incentives and additional funding for new social service block grant funds targeted for the newly selected zones. The law created nine so-called empowerment zones which would get the biggest share of incentives and grants, with an additional ninety-five communities designated as enterprise zones receiving smaller benefits. Currently, forty-three states have adopted this policy for three thousand zones (Pulsipher 2005).

Earlier state programs helped state and national officials become interested in their federal adoption. The traditional mechanisms of laboratories, in which the nation adopts innovations that the states have already proved to be feasible, were not, however, a strong factor in promoting federal adoption, since evaluations of the efficacy of enterprise zones were actually quite mixed.

Most states had adopted similar programs well before the federal program, featuring tax incentives for both urban and rural areas selected as zones. Many states also integrated other subsidies into a more comprehensive strategy for rebuilding poorer areas. In some states, separate grants, loans, and tax incentives were bundled together with the enterprise zone incentives to jump-start economic development initiatives at the local level. Many states also offered inducements such as one-stop permits and lower fees. In sum, the state programs varied widely in the number of zones designated, the types of incentives offered, and the processes used to select targeted areas.

Economic competition among the states promoted the diffusion of enterprise zones to other states. That is, the states were pressured into adopting this initiative to prevent businesses from relocating to states with better incentives. While competition gave states incentives to adopt programs, most acknowledged that the programs were weakened by the relatively low state and local taxes on capital and payrolls.

Accordingly, many state leaders concluded that the effectiveness of their programs would be enhanced only if the program were adopted by the federal government (Austin 1993). Since federal taxes were much higher than those of states and localities, governors and other state officials, as well as business leaders, argued that federal incentives would have a much greater impact. The state programs themselves could be said to have given state leaders a "rooting interest" in promoting the nationalization of their own policy initiatives.

The states' programs may have demonstrated the feasibility and "administerability" of these programs, but they did not convincingly demonstrate their effectiveness. The evaluation of state programs was in fact very mixed. Analysts disagreed about whether the state programs had any measurable effect on investment and employment in the targeted zones at the margin. One of the most important objections was that tax incentives were ineffective. For example, a GAO study of Maryland's program concluded that the incentives largely served as windfalls for businesses that would have located in targeted areas anyway (Mossberger 2000). Moreover, critics argued, tax incentives were wasteful and even harmful, as enterprise zones could drain economic activity from adjacent poor neighborhoods and hurt businesses in surrounding areas.

**TABLE 14. ENTERPRISE ZONE SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	– Most states had programs, and their experiences and features were considered when formulating the federal program. Evaluations suggested that these programs had largely failed to stimulate new economic activity, but they were largely ignored in federal policymaking.
Cost data	○	– State zones had costs. Empirical data from state programs revealed that businesses gained windfalls when they received subsidies for activities they were already planning, and areas outside the zones were negatively affected. – Because enterprise zones were seen as desirable, these cost issues were not considered in federal program design.
Spillover effect	●	– The states' economic competitiveness encouraged horizontal diffusion. Because the states were competing for business, they had to stay even in the race with other states by offering zone programs. But spillovers were not central to the creation of a federal program; state programs were not undermined by the inaction of other states. – States with enterprise zones were aided by inaction in neighboring states, since the zones increased their competitive advantage.
Horizontal diffusion	●	– States emulated one another in rapidly adopting zone programs, owing to their fear of losing businesses to neighboring states.
Federal assistance to states	○	– There was no prior federal support for these initiatives.
Business support for federal action	●	– The business community was a major proponent of the federal program. Higher federal tax rates fueled the argument that federal tax incentives would be more effective than state-based programs only. – Businesses were uniformly supportive of diffusion and pushed heavily for federal action.
Push for diffusion by state champions	●	– The states strongly supported nationalization. Like businesses, they realized that the concept would be more effective if linked to lower federal taxes. Moreover, the federal program provided additional federal grants to targeted areas.

## Summary

The impact of state policies was to instill the interest of a broad coalition of state, business, and antipoverty groups, with national officials coming to consensus much later in the game. While the state programs never demonstrated the positive impacts they advertised, their approach had nonetheless been thoroughly developed and reached bipartisan agreement when the Los Angeles riots opened a

critical political window. Pressed for a concrete response, officials from both parties were able to readily adopt a policy that had gained widespread support, based on what was advertised as “successful” policies in the states. There now are more than three thousand enterprise zones in forty-seven states.

## CASE STUDY 10

## Gun Control Laws

In 1993, Congress passed legislation requiring a five-day waiting period for purchases of handguns from retailers. Local law enforcement officials were required to make a “reasonable” effort to do background checks of the purchaser’s criminal and mental health status. The states were given funding to establish systems for checking backgrounds, and those with so-called insta-check systems were exempt from the waiting-period requirements.

After experiencing years of frustration in overcoming the intense, well-orchestrated, and well-funded opposition of the National Rifle Association (NRA) and its allies, the passage of this legislation marked a major victory for gun control advocates. No major federal gun legislation had passed since the 1968 Federal Control Act, which banned the shipment of pistols and revolvers across state lines. The NRA has an active grassroots lobby operation which is intensely supported by gun owners, who are more likely to mobilize against federal legislation than are the great majority of those who favor stronger gun laws.

The coalition of interest groups supporting this bill was led by Handgun Control, a public-interest organization organized by Sarah Brady, the wife of the former Reagan press secretary, Jim Brady, who was wounded in an assassination attempt on President Reagan. Labor, medical, religious, civil rights, and civic groups also joined in lobbying for the bill.

The leadership by elected officials was the critical factor leading to passage of the legislation. Newly elected President Bill Clinton made the Brady bill a signature piece of legislation early in his first term. Earlier, the 1992 Democratic Party platform had endorsed this position by supporting a strong and specific stand on gun control. In addition to the waiting period, Clinton also advocated a ban on deadly assault weapons as well as swift punishment for crimes committed with the use of a gun. When packaged with his support for more stringent sentencing laws and new federal assistance for local law enforcement, these initiatives were part of an effort by the new Democratic president to position himself and his party as different from both Republicans who opposed stricter gun controls and “old line” Democrats, by highlighting the party’s new concern over crime. In addition to Clinton, key Republicans, including former President Reagan, also supported this bill.

Guns were first regulated in the United States in New York, with the 1911 Sullivan law. By 1993, eighteen states had already enacted various waiting periods as well as back-

ground checks. For instance, Maryland had a seven-day waiting period as early as 1966, and New Jersey had had a background check for more than twenty years. Tennessee enacted a waiting period of three days as early as 1959, which was extended to fifteen days in 1961. And Florida had instituted one of the first insta-check systems to provide immediate information about the backgrounds of prospective purchasers.

These earlier state and local policy initiatives helped stimulate the ultimate passage of the Brady bill. First, the long history of state and local leadership showed that federal legislation was both feasible and effective. Studies showed that states with stricter gun control laws had a lower suicide rate. The availability of firearms, as measured by strict gun laws, was the most powerful explanatory variable. For instance, in California, the state’s fifteen-day waiting period was shown to have prevented 5,859 illegal firearm sales during 1991 and 5,763 during 1992. In Maryland, the background check caught more than 750 prohibited persons trying to buy handguns in 1990 alone. In New Jersey, background checks stopped 18,000 illegal gun purchases, many by convicted felons. Other studies, however, showed that the homicide rates of states with gun control legislation (California, Minnesota, New York, Connecticut) rose above the national average, whereas the homicide rates of states without gun control legislation (Alaska, Nevada, Delaware, Vermont, Idaho) dropped.

Most important, the state and local adopters had powerful incentives to support federal legislation to protect their hard-won policy initiatives from being undermined by recalcitrant states. For instance, New York officials noted that 90 percent of the guns used in crimes came from out of the state, presumably from states with weaker or no gun regulations. Senator Bill Bradley of New Jersey noted that gunrunners buy carloads of weapons from states like Virginia and bring them in to strong regulatory bastions like his home state to commit felonies that the state’s own laws are designed to prevent.

In deference to already established programs, the Brady bill provided flexibility for those states with stringent regulatory regimes to exceed the federal waiting period and background-check minimums; a model known as *partial preemption*, for which the federal regulations established a floor, not a ceiling. Congress rejected calls by the NRA for a preemption of these earlier state and local laws.

**TABLE 15. GUN CONTROL LAWS SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	<ul style="list-style-type: none"> <li>– Eighteen states already had waiting periods and background checks for gun purchases before passage of the federal law in 1993.</li> <li>– Evaluations showed these laws discouraged ex-felons and mental patients from buying guns.</li> </ul>
Cost data	●	<ul style="list-style-type: none"> <li>– The cost of the states' restrictions was a factor in the debate, and gun owners represented by the NRA tried to show that the delay would impose an unacceptable burden on prospective purchasers.</li> <li>– The law made a concession by requiring a phasing in of computer databases to provide quicker and less burdensome compliance with the act.</li> <li>– The prospective burden on the police having to check records was not an issue during passage, as most police organizations supported the bill as a crime-fighting measure.</li> </ul>
Spillover effect	●	<ul style="list-style-type: none"> <li>– States with their own measures pushed for national legislation because their policies were undermined by states without such restrictions. Guns flow easily across boundaries.</li> </ul>
Horizontal diffusion	●	<ul style="list-style-type: none"> <li>– The states' policy initiatives spawned waves of innovation across other states. The biggest states adopted the measure, which was an important catalyst for federal action.</li> </ul>
Federal assistance to states	○	<ul style="list-style-type: none"> <li>– No federal aid was provided for gun control before the act.</li> </ul>
Business support for federal action	○	<ul style="list-style-type: none"> <li>– Business did not support this measure. The "regulated community" most prominent in the debate was the gun owners represented by the NRA, and they vigorously opposed the bill.</li> <li>– This lack of business support did not hinder federal action on gun control.</li> </ul>
Push for diffusion by state champions	●	<ul style="list-style-type: none"> <li>– Those states and local governments with restrictions pushed strongly for the bill, so as to prevent other states without restrictions from becoming havens for guns that crossed their borders. In addition, local police organizations strongly supported the bill as an anticrime measure.</li> </ul>

## Summary

The passage of the Brady bill was prompted by national political forces, most notably the election of a Democratic president anxious to join the Democratic Congress to promote new policy ideas. The states' innovations played a pivotal role in placing waiting periods and checks of pro-

spective gun owners on the national agenda. State leaders showed that such programs were feasible but were hampered by not having uniform national implementation. State policy leaders were therefore instrumental in gaining passage of the legislation.

## CASE STUDY 11

## Welfare Reform

The underpinnings of the traditional welfare program, Aid to Families with Dependent Children (AFDC), had been eroding for years. Begun during President Franklin D. Roosevelt's New Deal, the AFDC reflected the federal assumption of an obligation to provide whatever funds were needed to match the states' welfare programs for entitled families, in most cases mothers and their children. Although operating under the penumbra of national standards, the program gave considerable discretion to the states in setting both benefit levels and eligibility conditions. Thus, the states played a fundamental role in the AFDC program's design and implementation from its inception.

During the 1960s, the AFDC program became a lightning rod for political controversy. Emboldened by the civil rights movement, beneficiary organizations succeeded in overturning restrictive state benefits in the courts, further institutionalizing the program's entitlement status. Then a growing conservative backlash materialized at the national, state, and local levels. Starting in the segregationist South, limits on benefits spread to such northern cities as Newburgh, New York, which cut benefits for pregnant unwed mothers and instituted work requirements. At the national level, the Democratic Congress passed the first work incentives in 1967, imposing modest work and training requirements on certain welfare recipients. This movement to tie benefits to work for parents accelerated during the next two decades, culminating in passage of the 1988 Family Support Act, which was a bipartisan approach combining work requirements for a portion of welfare clients along with generous work supports such as child care and training.

While building on this consensus, the movement toward the more ambitious reform that was later known as the Temporary Assistance for Needy Families (TANF) program took on a distinctly partisan cast. During this period, conservative policy intellectuals laid the foundation undermining the legitimacy of the old program, reflected in the work of Charles Murray, who argued that welfare programs trapped its clients in poverty and dependency (Heclo 2001). Party leaders then made the program a centerpiece of political repositioning, designed to highlight the growing attraction of family values and work in the broader culture. Republican candidates, for instance, used reform as a way to appeal to the religious right by promising to end what they claimed to be the incentives promoting out-of-wedlock teen births. Democratic candidates, including Bill Clinton, used reform to highlight their emergence as "new Democrats" who had shed the tax-and-spend label. Indeed, Clinton's promise in his 1992 campaign to "end welfare as

we know it" came back to haunt him when he was presented with a bill to sign in 1996. But Clinton signed the bill, which came from a Republican Congress, partly out of fear of being attacked in his next campaign as being out of step with what was perceived as a growing moral consensus.

While broader national political forces were clearly at work, the states also helped pave the way toward reform. As the principal implementers of welfare policy, the states always had a unique role among those of the many interest groups in Washington. Their role as laboratories piloting new models for welfare thus became an important independent factor in legitimizing the 1996 welfare reform changes.

Although states were the administrative backbone of the old system, they nonetheless operated under the rubric of federal standards and would need federal forbearance to engage in significant experimentation and deviation from the cash-based entitlement model of the AFDC. In the politics of national parties, Republicans were traditionally the supporters of greater devolution to the states. But starting in the 1980s, the Democrats viewed empowerment of states as a strategy to outflank national conservatives seeking to impose hegemonic policy ideas from the top. Thus both parties, for their own reasons, began to push for granting waivers from federal rules in order to give the states greater flexibility to experiment with innovations.

By 1995, most states had obtained waivers under section 1115 of the Social Security Act and were using them to test dramatic new reforms (Weaver 2000). The states instituted important changes from the bottom up that featured new work requirements, links of benefits to changes in behavior such as school attendance and marriage, and time limits for benefits. The states that demonstrated these innovations were not the bastions of racial politics of previous decades in the South, but more "middle-of-the-road" states like Michigan and Wisconsin. These state reforms showed that such initiatives could gain support in moderate areas of the nation, thereby demonstrating to national policy officials the political feasibility of such changes. In fact, pursuing these waivers became a politically compelling movement that swept the nation, as the governors of most states were anxious to show a restive electorate they were "doing something" about this problem (Weaver 2000).

The fiscal rationale for these reforms was important to the ultimate design of the 1996 federal reform. The states pursued work requirements with at least the promise of reducing spending for this growing area of state budgets.

This was a movement that picked up speed during the 1990 recession when the states faced a fiscal squeeze from declining revenues and rising entitlement costs from Medicaid and welfare programs. Having framed the reforms as a fiscal strategy, the states paved the way for federal officials to consider the TANF program in the same light. Faced with growing deficits, the TANF program's funding caps were also justified as a deficit reduction strategy. Significantly, the states departed from their traditional opposition to capping open-ended federal grants to support this closed-ended block grant, notwithstanding the potential vulnerability they would face if the costs exceeded the cap during the next recession. Challenged by the rhetoric surrounding their own reforms, the states posed as partners in deficit reduction and agreed to accept federal funding caps in exchange for flexibility to continue to expand their work-related models.

The states' policy activism threatened to embarrass national officials who did not rise to the challenge. Competition among levels of government for political approbation and support is built into our federal system, and in this case the states succeeded in framing the agenda of reform in a politically compelling manner. The states' activism also gave legitimacy to a block grant approach devolving authority to state officials to determine eligibility.

One other aspect of the laboratory analogy is important: state-initiated reforms are an opportunity to test the efficacy of new approaches before they are adopted at the national level. While appealing, the states' reforms were never proved by research to definitively reduce costs or to improve the lives of welfare recipients (Weaver 2000). Indeed, the states' experiments helped spawn a veritable cottage industry of evaluation research dedicated to examining their effects. For instance, only a few programs designed to link benefits to changes in sexual behavior were effective. Some welfare-to-work programs were shown to have modest benefits but nonetheless were limited in scope and certainly not the panacea often touted by advocates. While some recipients were able to find work, these jobs paid little and did not eliminate the need for assistance; moreover, some recipients had disabilities that would prevent them from benefiting from work requirements. Moreover, the policy reforms instituted in the 1996 act went well beyond what any state had been able to implement at that time.

Finally, when considering the role of states in welfare reform, the influence of states as collective lobby groups should not be ignored. The National Governors Association (NGA) is among the most powerful organizations of its kind in Washington. Its effectiveness, however, is premised on its ability to fashion cohesive policy positions across a diverse set of political leaders, a challenge that it often fails to overcome. Indeed, in regard to welfare reform, the NGA was neutralized by the many differences

between Democratic and Republican governors. Nonetheless, in designing the ultimate bill, leading Republican governors, most notably Tommy Thompson (WI) and John Engler (MI), worked collaboratively with the House leadership to represent the interests of states as they saw them. While they were often trumped by competing interests, including the need to reduce the federal deficit, these governors nonetheless exerted great influence at the formative stages of this legislation.

The 1996 welfare reform act certainly bears the imprint of state reforms. The reforms pursued by individual states helped set the agenda by demonstrating the political appeal of welfare reform to the broader public. Indeed, states may have helped set in motion a competitive race among national officials reluctant to appear to be outflanked by a policy agenda with such broad appeal.

While influential in setting the agenda, these state innovations were only one of many factors actually prompting the formulation of welfare reform. As noted earlier, deep-seated ideological, theoretical, and political party forces were at work boosting welfare reform into a compelling issue of which both parties vied to claim leadership. In effect, a policy bandwagon had been set in motion which swept up federal and state political officials alike. Rather than being out in front of federal officials, state reforms were a concurrent response by state elected officials to the same forces that were prompting national leaders to pay attention as well. Far from lagging the actions of most states, federal policy actions such as the 1988 Family Support Act often took place at the same time as state initiatives.

Policy bandwagons can arguably become compelling juggernauts sweeping away all obstacles in a system normally characterized by gridlock and checks and balances (Baumgartner and Jones 1993). These bandwagons benefit from the multiple venues provided by our federal system. Far from checking and balancing the actions of separate levels of government, our federal system at these times becomes a self-reinforcing engine of policy change. A process of positive feedback takes hold, in which the initiatives of one level of government feed the actions of others. The ability of this system to offer "safe havens" to test new ideas has been widely noted. What is not as well understood is how those ideas can quickly cross boundaries, not by an analytic process of careful deliberation, but in a competitive process of political emulation in which an idea takes root at all levels of government, sweeping aside traditional boundaries and notions of propriety and rules of engagement.

## Summary

In 1996, Congress passed a major reform of the nation's welfare programs, doing away with the old AFDC and replacing it with a more flexible block grant to the states, the

**TABLE 16. WELFARE REFORM SCORING FOR DIFFUSION FACTORS AND THE SCORING BASIS**

FACTOR	SCORE	SCORE BASIS
Policy learning: example, innovation, feasibility	●	– The states' welfare-to-work initiatives preceded federal law and set the agenda for new approaches. The federal law was partially modeled on the states' initiatives, but research did not fully support adoption of these proposals. In fact, family caps and work mandates were often not supported by research findings.
Cost data	●	– The savings that the states claimed to gain from new work requirements were part of the rationale for federal legislation, which was passed as part of the deficit reduction initiatives. – The claims of reducing costs were an important rationale for capping the formerly open-ended federal program with a block grant.
Spillover effect	●	– The states' various welfare policies were vulnerable to competition, as the states sought to avoid becoming "welfare magnets" with generous benefits. But the spillover factor was not the major impetus for passage of the 1996 legislation, since, if anything, the new model encouraged the states to be more restrictive.
Horizontal diffusion	●	– The states' welfare reform initiatives rapidly diffused across their borders and became a major factor in attracting national attention and consideration.
Federal assistance to states	●	– The provisions of the federal AFDC law served as an important predicate for the new reforms. The old program's benefit formulas and incentives were the impetus for reformers, and its waiver provisions enabled the states to institute their reforms.
Business support for federal action	○	– Owing to the nature of the problem at hand, business was not opposed to or supportive of federal action in any meaningful way.
Push for diffusion by state champions	●	– State leaders were major players in expanding their own initiatives to the national level. State leaders offered a model for the new Republican Congress, anxious to prove itself as reformers of government and budget cutters. Republican congressional leaders welcomed Republican governors into inner policy circles and invited them to play major roles in designing the legislation.

TANF. The new program swept away the old open-ended federal commitment providing entitlements to all eligible families and replacing it with a capped grant to the states. Not only was the individual entitlement eliminated, but the states also were required to institute work requirements for beneficiaries as well as five-year time limits, among many other federal mandates accompanying this so-called block grant. Coming on the heels of major political gridlock between President Clinton and the Republicans

controlling Congress, the passage of such a major reform surprised many observers. Moreover, the states' acceptance of a funding cap on a previously open-ended federal grant also was surprising. But when viewed against the backdrop of earlier policy history and the states' own extensive experimentation, it is clear that the stage had already been set for reform for a number of years, at both the national and state levels.

## CASE STUDY 12

## Balanced-Budget Amendment

The federal budget has experienced chronic budget deficits for much of the past thirty-five years. Although the nation has had budget deficits in other periods of its history, most of these were caused by wars or depressions, and the nation quickly returned to a budget balance or surplus during “normal” times. Balanced budgets enjoyed the status of an unquestioned norm, part of the nation’s “unwritten constitution” (Saturno 1998). Recent years have marked the first sustained period of fiscal imbalance in the absence of a war or serious economic depression, with deficits rising as high as six percent of the economy.

These large deficits have given rise to the view that the budget and policymaking process lacks sufficient discipline to resist the growing pressure from voters and interest groups for higher spending and lower taxes. In this view, changes in the budget process itself will be necessary to institutionalize sufficient resolve by policymakers to safeguard the nation’s fiscal future. Although restraint can be legislated, one congress cannot legally bind succeeding congresses. Such statutory initiatives as the 1978 Byrd Amendment and Gramm-Rudman-Hollings Act implemented budget restraints that were ineffectual in preventing the growth of deficits. Accordingly, some people have argued that only a constitutional amendment would force hyperresponsive national leaders to observe norms of fiscal balance (Buchanan and Wagner 1977).

Balanced-budget amendments were proposed numerous times in past Congresses. The Senate Judiciary Committee reported nine amendments from 1980 through 1998, while the House considered a proposed amendment on five occasions during those years. However, given the requirement for two-thirds votes in both houses, an amendment has never survived the congressional gauntlet. Groups favoring the amendment, such as the National Taxpayers Union, have pressed state legislatures to deploy the alternative vehicle for changing the Constitution—petitioning the Congress to convene a constitutional convention to consider an amendment. As of the 1990s, this movement had gained the support of thirty-two of the required thirty-four states, although considerable uncertainty surrounded the legal status of some of these petitions (Saturno 1994).

The proposed amendments typically required all spending and revenues to balance in each year. To respond to the complaint by many that such a process would hamstring the federal government’s ability to finance wars or fight recessions, most versions permitted an extraordinary majority of Congress to waive the requirement for wars or recessions. Some versions specified exemptions for So-

cial Security payments and receipts, and several versions exempted federal spending for capital items. Still other versions, such as the one passed by the House in early 1995, added requirements for extraordinary majorities to increase revenues and raise the federal debt ceiling.

The amendment served as a lightning rod for the expression of differences over the role of government. Traditionally, the amendment was proposed by Republican leaders and certain fiscal conservatives to limit the scope of government by enforcing fiscal discipline. For instance, in 1995, the balanced-budget amendment was a key plank of the Republican “Contract with America” and was quickly passed by the House. The prospective Republican presidential candidate, Majority Leader Robert Dole (KS) led the fight in the Senate as a signature measure to underline his forthcoming campaign to change the culture in Washington. While some fiscally conservative Democrats also supported the amendment, with appropriate safeguards for war, recessions, and social security, the debate over the amendment led to a high-stakes partisan conflict, with Democratic leaders and their interest-group allies registering sharp opposition. President Clinton and other leading Democrats used the amendment to portray the Republicans as supporting a mindless mechanism that could slash benefits like Social Security and nutrition grants (Hager and Pianin 1997). Because the amendment was supported by a large majority of the public, the Democrats had to reframe the debate to focus on the amendment’s consequences for other important public objectives also valued by the public. By portraying the amendment as jeopardizing social security, Democrats had found their “magic bullet” (LeLoup 2005).

Partisanship aside, the amendment also became the occasion for leaders on both sides to demonstrate their symbolic support for fiscal balance and restraint while shying away from making the “tough choices” necessary to balance the budget. President Reagan, for example, championed the amendment, even though many of his own tax cuts and defense spending increases further widened the federal fiscal gap. Congress raced to embrace the Gramm-Rudman-Hollings legislation requiring the budget to be balanced within five years—a target that proved to be elusive when presidential and congressional actors proved unwilling to make the choices necessary to deliver on this ambitious fiscal promise.

While partisan and ideological conflict was formative, policy learning also helped undermine the support for the amendment. Allen Schick, a premier academic student of



budgeting, proclaimed that the history of budget process reform, most particularly Gramm-Rudman-Hollings, illustrated that no process reform, including an amendment, would be followed in the absence of political support for fiscal restraint. In fact, the experience with that budget reform illustrated the difficulties that political leaders may face when they vow to balance a budget that can be only partly controlled by policy action. Even when hard choices were made, the deficit reduction targets were missed when the economy and other uncontrollable factors intervened. When the targets became too daunting, they were side-stepped, changed, or ignored. Major programs, including Social Security, were exempted from the restraints, forcing disproportionate sacrifice to be borne by nonexempt activities.

Informed by this recent experience, Schick and other budget experts predicted that a balanced-budget amendment would risk the following consequences:

- Using more bookkeeping gimmicks to meet the balance goal.
- Risking political gridlock when a balanced budget was beyond political reach and increasing the power of small minorities whose support might be necessary to muster supermajorities to waive the requirement during wars or recessions.
- Preventing the federal budget from performing its macroeconomic function as a stabilizer for an economy going into recession and exacerbating recessions by promoting procyclical fiscal actions such as spending cuts or tax increases to stay in balance.
- Promoting budget uncertainty when uncontrollable factors such as the economy or health care patterns cause budgets to go out of balance following approval of the budget, possibly necessitating an increase in presidential power to address the shortfalls.
- Impeding the federal government's capacity to respond to crises.
- Impelling Congress and the president to create "off-budget" approaches to public programs, such as through unfunded mandates, tax expenditures, and the creation of quasi-public entities whose finances could be excluded from the unified budget.
- Inspiring a major role for the courts, as claimants from both sides will resort to the judges to second-guess compliance by the Congress and the president that injures their interests (Schick 1997).

The momentum for a balanced-budget requirement was reversed after 1997, and since then there have been no votes on the floor of either house on such a proposal. Although explaining a "nonevent" is always a difficult analytic exercise, a number of factors help explain this reversal of fortune. Most important, the federal government finally

balanced the budget and even had surpluses for four years, from fiscal year 1998 through 2001, thereby rendering irrelevant the apparent need for an extraordinary process. The fact that balance was achieved without an amendment may have blunted the apparent necessity for an extrapolitical constraint.

Since then, the budget deficits have accelerated to 3 percent of the economy, and long-term budget models of both the GAO and CBO show the deficits exploding to nearly 20 percent of GDP over the next forty years unless policymakers take action on both spending and revenue to address the consequences of retirement and health care cost inflation (GAO 2005). Although the rise of deficits might be expected to renew interest in the amendment, the party most likely to embrace this proposal has shifted its position on fiscal policy. For many conservative Republicans, rather than favoring an absolute balance, tax cuts have trumped the traditional balanced budget. President George W. Bush's 2006 budget, for example, promised to cut the deficit only in half, not zero, over the next five years. One of the intellectual leaders of the "supply side" movement, Paul Craig Roberts, argued against a balanced-budget amendment on the grounds that hard-pressed leaders would be more likely to raise taxes than to cut spending to balance the budget, a result deeply at odds with their economic perspective. In any case, the leaders of both parties now have too much at stake on the spending and revenue sides of the budget to risk these priorities through a balanced-budget requirement (Roberts 1996).

### Role of the States

Both sides of the debate often cite the states' experiences as a rationale for either favoring or opposing the amendment. The fact that forty-eight states have balanced-budget requirements, with thirty-five being grounded in their constitution, helped promote this to the national agenda as a potential federal solution (GAO 1993). Since many members of Congress previously served in a state legislature, they are familiar with operating under these requirements. In their lobbying initiatives, both governors and state legislatures often tout their fiscal resolve in comparison with Washington's, notwithstanding their arguments for greater federal assistance. Indeed, as noted earlier, a high-water mark of thirty-two state legislatures passed resolutions imploring the Congress to establish a convention to consider a balanced-budget amendment. But once such a convention appeared to be gaining the necessary support, several state legislatures retracted their resolutions, partly out of concern for the impact on federal requirements for funding grants and mandates.

Unlike many of the cases cited in this study, however, the balanced-budget amendment is an example of state policy that did not expand to the federal level. Although it attracted interest, the states' experiences were viewed

through the lens of strong ideological and partisan views that colored how different actors interpreted the results of the states' fiscal laboratories. Proponents could point to the fact that unlike the federal government, the states generally were not able to ignore deficits and often were forced to take painful spending and revenue actions to bring their budgets back into balance. Although harmful to many interests and taxpayers in the short term, some argued that such discipline periodically forced the states to reexamine outdated programs, review the efficiency of operations, adopt reforms that strengthened the states' revenue systems, and institute more effective programs.

Nonetheless, the states' experiences also demonstrated the limitations and downsides of such an amendment. First, the effects of state spending cuts and tax increases offered cheer only to the small group of fiscal hawks and purists who prized discipline as an overriding objective. Liberals and conservatives, for different reasons, found these actions to be a worrisome harbinger of what might be in store for the federal level, where the stakes would be higher.

Second, the applicability of the states' experiences to the federal government was challenged. To paraphrase, federal and state budgeting may be alike in all unimportant respects. First, unlike the states, the federal government has responsibility for balancing the economy over the business cycle, which may very well call for deficits during recessions. The procyclical actions that the states must take when recessions cause deficits would undermine the federal role in stabilizing and countering the contradictory forces of the economy during these times. Second, partly because of this unique federal fiscal role, the federal budget is structured as a unified budget that accounts for all revenues and spending in calculating the fiscal "bottom line." The balancing requirements in states pertain only to the general fund, which comprises about 54 percent of state spending, according to one study in 1990 (GAO 1993). Third, the institutional environment surrounding state budgeting is different as well: governors have extraordinary powers to impound funds if the budget goes out of balance after legislative approval, and it is unlikely that the Congress would cede this kind of power to the president.

Moreover, the results of state budget requirements are ambiguous at best, opening the door for differing interpretations by actors with different partisan and ideological agendas. While many could admire the fiscal heroics of

state officials, there is considerable doubt that the balanced-budget requirements "made them do it." Rather, most observers attribute the states' fiscal discipline to a combination of the bond market and the political tradition of budget balance, which work together to undergird fiscal restraint that a requirement alone cannot provide. The pressures of the bond market cannot be expected to be a source of restraint at the federal level, since the markets assume the federal debt to be risk free. Traditions of a balanced budget at one time anchored federal fiscal behavior as well, but as noted earlier, such expectations no longer have the weight that they once did.

The states' experiences show that when the requisite political support is lacking, the states always find ways to sidestep the constraints of their balanced budget. The strategies they have used include carrying over deficits to succeeding years, as California most recently has done; shifting programs or revenues out of the general fund to other parts of the budget not covered by the requirement, such as the capital budget funded by borrowing; using creative accounting by shifting expenditures or revenues across fiscal years to escape the jaws of the fiscal vise; establishing various "off-budget" entities whose spending and debt are deemed to constitute a moral, not a legal, obligation of the state; and establishing mandates on lower levels of government, thereby shifting the costs from state to local revenue sources.

## Summary

The states' experiences have been important to placing balanced-budget amendments on the federal agenda in the first place. Indeed, the fact that national political leaders often spend their formative years as state and local officials guarantees that state-based budget process reforms, whether they be balanced budgets or line-item vetoes, will continue to entice national officials to solve national problems. In fact, the state-based reforms may constitute "perennial" reforms that float in the federal "policy soup," notwithstanding their apparent lack of fitness for unique federal policy and fiscal environments (Rubin 2002). In any case, momentum for a federal balanced-budget amendment reached a climax in 1997 and has not resurged. Even though forty-eight states have such budgetary requirements, the combination of interests pushing for reform in the mid-1990s was not sufficient to force the passage of similar restrictions on the federal government.

## CASE STUDY 13

## Land-Use Planning

Land-use planning became commonplace in the early part of the twentieth century as communities across the United States tried to manage urban growth and incompatible uses of land. Until this time, landowners were free to develop their properties, regardless of adjacent land use. This laissez-faire approach resulted in escalating concerns about noise, public health, odors, and aesthetics. To combat the problems of incompatible land uses, several states and communities, beginning with New York City, passed laws to enable zoning restrictions and to allow communities to regulate how various types of land could be used in certain areas.

Property owners in some of these communities complained that their property had lost value under the new zoning rules because it could not be developed for its intended use. This argument was settled by the U.S. Supreme Court in 1926, with its landmark decision in *Village of Euclid v. Ambler Realty Co.* The court found that land-use control by communities was constitutional and not considered a “regulatory taking,” meaning that communities were not required to compensate landowners for any loss in property value due to zoning regulations.

The use of zoning was further clarified and codified when the states began to adopt the federal Standard Planning and Zoning Acts (SPZAs). The SPZAs were the product of a federal commission convened by President Herbert Hoover to construct model legislation that would enable the states and their communities to zone areas for specific land uses in accordance with a comprehensive plan. By 1930, more than thirty states had adopted variants of the SPZAs, and currently every state allows municipal-level planning and zoning.

Until the 1960s, land-use planning was almost exclusively under the jurisdiction of individual communities. Although the states held ultimate authority regarding land use, all permitted communities to pass zoning and subdivision regulations. But the rapid growth and suburbanization that followed World War II changed this sentiment dramatically. Sprawl was affecting communities, regions, and, in some cases, entire states. For example, to protect its pineapple and sugarcane farmers from rapidly expanding metropolitan areas, Hawaii passed a first-of-its-kind statewide land-use planning law in 1961. The law gave the state sole zoning authority through a land-use commission. The commission then created districts for urban, rural, agricultural, and conservation uses. As far-reaching as Hawaii’s state-level zoning law was, it was not duplicated

elsewhere, probably owing to the unique circumstances of the archipelago state.

Although several states were influenced by Hawaii’s groundbreaking regulations, none placed zoning authority entirely at the state level. Instead, states like Massachusetts, Wisconsin, and California passed laws permitting state agencies to regulate development in certain critical areas such as coastlines or wetlands. Other states, like Minnesota, permitted the creation of regional land-use entities with zoning powers to control urban development in areas with large populations or sensitive natural characteristics. In 1970 both Maine and Vermont passed statewide land-use laws giving them jurisdiction over land-use development of significant size and/or in areas of critical environmental concern (such as development on mountains).

A primary driver of the statewide planning initiatives was concern about the environmental impacts of unrestrained development. After the rapid suburban expansion in the 1950s and resulting environmental degradation, community-level land-use controls were found to be woefully inadequate. The states stepped in to control growth in critical areas and minimize further destruction (Rome 2001). This “quiet revolution” in land-use control fundamentally changed how planning was conducted in the United States (Bosselman and Callies 1971).

The first and only significant attempt to pass federal land-use planning legislation began in 1970, in parallel with efforts to pass other key environmental laws like the Clean Air Act and the Clean Water Act. Senator Henry Jackson (R-WA), chairman of the Senate Interior Committee and author of the National Environmental Policy Act of 1969, spearheaded the effort. Jackson’s bill was meant to encourage states to implement statewide land-use plans to control and direct development. The bill that he submitted in 1970 was well received by the Interior Committee and gained a favorable report only to be stopped by procedural measures before it reached the Senate floor.

Jackson submitted the same bill again in 1971 and later merged it with a competing measure proposed by the Nixon administration. The resulting bill (S. 632) provided grants to states that agreed to create state agencies that would conduct comprehensive assessments and planning of all land and water resources within that state. Participating states also were required to implement powers to override local plans when such plans were inconsistent with federally funded state plans. All plans would be subject to the approval of the new federal Office of Land Use Policy.

If the participating states were found not to be in compliance with all provisions of the act, they risked losing a portion of their federal highway, airport, and conservation funding. Overall, the proposed appropriations for the program totaled \$110 million annually for eight years.

The combination bill was well received in the Senate and passed by an overwhelming margin (60 to 18). The bill also had the support of more than thirty governors, several cities, environmental and conservation groups, many industries, farm interests, and water resource associations (Daly 1999). At that time, leadership in the House of Representatives was more concerned with managing public lands than with planning. Representative Wayne Aspinall (D-CO) combined Jackson's planning bill with his own public-lands bill in order to force consideration of public-lands management in the Senate. The combination bill failed in the House primarily because of battles over public-lands management between conservationists and economic interests (Lyday 1976).

Senator Jackson resubmitted his planning bill (identical to the one passed by the Senate in the previous year) in 1973, and it again passed easily (64 to 21). Jackson's bill still had the backing of the administration, but support from economic interests, namely the U.S. Chamber of Commerce, had eroded as they had become anxious about the erroneous perception that the bill would permit federal control over local land-use decisions (Lyday 1976). The bill was received by the House of Representatives, which was preoccupied with the issue of oil-price shocks, and it took nearly a year for the bill to reach the floor for a vote.

The House bill differed from its predecessor in that it dealt solely with land-use planning and did not contain any language pertaining to public lands. This allowed opponents to attack the bill by causing confusion over what it would actually do. Even though the bill simply provided funds, with strings attached, to the states to promote land-use plans, its opponents sowed doubt by asserting that the bill would allow infringements on property rights and cause increases in litigation when permitting large residential and industrial developments. Concern also arose over the prospect of new federal intervention in decisions that still were largely under the jurisdiction of local communities (Lyday 1976). Ultimately in 1974, the bill was defeated in the House by a procedural vote of 211 to 208.

The second defeat of Jackson's land-use planning bill marked the end of any significant effort to institutional-

ize comprehensive land-use planning at the national level. Simultaneously, state-level comprehensive planning legislation efforts stalled as well. This was due in large part to the slumping U.S. economy and a significant drop in land development, which simply dampened the sense of urgency for action. In addition, a measurable backlash to the previous wave of environmental legislation by business and political leaders gave considerable pause to consideration of further measures (Rome 2001).

With the absence of substantial federal involvement in land-use planning, the task has remained primarily under the jurisdiction of the states and local municipalities. There was little change in the status quo until the 1990s when a rapidly expanding economy began to fuel a new round of rampant growth in development. The resulting sprawl spurred new "smart growth" initiatives that moved more land-use planning activities to the state level or caused the states to demand that all local communities plan in accordance with state-issued guidelines. By 2002, twenty-one states had either implemented new statewide planning programs or were strengthening existing statewide planning regulations (American Planning Association 2002). As formidable as this new wave of statewide planning appears, no comparable federal legislation has gained traction. This continued lack of federal involvement is likely due to states' rights issues, the prevalence of private property in American culture, and a general public preference to keep considerations of land-use decisions at the local and state levels (Kayden 2000).

## Summary

Land-use planning originated at the community level to deal with community-scale issues of land-use compatibility. As the adverse effects of land development became regional in scope, the states began to assert a greater amount of land-use control through direct intervention or the creation of regional and statewide planning authorities. The federal government attempted to further encourage these state developments in the early 1970s through legislation that would provide funding for states to implement statewide plans. These federal attempts failed primarily because of opposition and fear of property rights infringement and a perceived loss of local decision making to the federal government. Current state-planning initiatives have gathered steam, and more states are conducting statewide land-use plans than ever before. However, since the 1970s, no comparable federal efforts have gathered any significant political momentum.

## References

- Air Conditioning and Refrigeration Institute. 2005. ARI's Policy and Public Affairs Info Briefs: State Standards. Available at <http://www.ari.org/ga/fed-leg/index.html#state> (accessed October 10, 2005).
- Alliance of Automobile Manufacturers (AAM). 2005. Clean Vehicle Fact Sheet. Available at <http://www.autoalliance.org/archives/archive.php?id=110&cat=Fact%20Sheets> (accessed October 10, 2005).
- American Planning Association. 2002. *Planning for Smart Growth: 2002 States of the States*. Washington, DC: American Planning Association.
- An, F., and A. Sauer. 2004. Comparison of Passenger Vehicle Fuel Economy and GHG Emission Standards around the World. Arlington, VA: Pew Center on Global Climate Change.
- Arrandale, T. 2000. Balking on Air. *Governing*, January, 26–29.
- Austin, Jan, ed. 1993. Congress Votes to Create Enterprise Zones. *Congressional Quarterly Almanac* 49:422.
- Baker, B. 2005. Brief History of Organic Farming and the National Organic Program. In *Organic Farming Compliance Handbook: A Resource Guide for Western Region Agricultural Professionals*, Available at <http://www.sarep.ucdavis.edu/organic/complianceguide/> (accessed December 16, 2005).
- Baldassare, M. 2005. *PPIC Statewide Survey July 2005: Special Survey on the Environment*. San Francisco: Public Policy Institute of California.
- Baumgartner, F., and B. Jones. 1993. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press.
- Bosselman, F., and David Callies. 1971. *The Quiet Revolution in Land Use Control*. Washington, DC: U.S. Government Printing Office.
- Buchanan, James, and Richard E. Wagner. 1977. *Democracy in Deficit*. New York: Academic Press.
- Burtraw, D., et al. 2001. Cost-Effective Reduction of NO<sub>x</sub> Emissions from Electricity Generation. *Journal of the Air & Waste Management Association* 51(10):1476–89.
- Butler, S. M. 1989. *How to Design Effective Enterprise Zone Legislation*. The Heritage Foundation. Available at <http://www.heritage.org/Research/urbanissues/HL215.cfm> (accessed March 20, 2006).
- California Air Resources Board (CARB). 2004a. *California's Air Quality History Key Events*. Available at <http://www.arb.ca.gov/html/brochure/history.htm> (accessed September 1, 2005).
- California Air Resources Board (CARB). 2004b. *Technical Support Document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles: Economic Impacts of the Climate Change Regulations*. Sacramento: California Environmental Protection Agency.
- California Air Resources Board (CARB). 2005. Press release, September 24. Available at <http://www.arb.ca.gov/newsrel/nr092404.htm> (accessed March 26, 2006).
- California Energy Commission. 1983. California's Appliance Standards: A Historical Review, Analysis, and Recommendations. Staff Report, as cited in: Nadel, S., et al. 2005. *Leading the Way: Continued Opportunities for New State Appliance and Equipment Efficiency Standards*, American Council for an Energy-Efficient Economy Report no. ASAP-5/ACEEE-A051. Washington, DC: American Council for an Energy-Efficient Economy.
- Climate Analysis Indicators Tool (CAIT)—United States. 2007. Washington, DC: World Resources Institute. Available at <http://cait.wri.org>.
- Clinton, William J. 1997. Statement by the President: Investment Sanctions in Burma, April 22, 1997. Washington, DC: The White House.
- Congressional Budget Office (CBO). 1986. *Curbing Acid Rain: Cost, Budget and Coal-Market Effects*. Washington, DC: Congressional Budget Office.
- Copeland, Claudia. 1999. Summaries of Environmental Laws Administered by the EPA. CRS Report RL30022. Washington, DC: Congressional Research Service.
- Daly, J. E. 1999. A Glimpse of the Past—A Vision for the Future: Senator Henry M. Jackson and National Land Use Legislation. Available at [http://www.law.pace.edu/landuse/senator\\_jackson.html](http://www.law.pace.edu/landuse/senator_jackson.html) (last modified November 3, 1999; accessed November 21, 2005).
- Donovan, D., et al. 1996. The School of (Hard) NO<sub>x</sub>: The Ozone Transport Commission NO<sub>x</sub> Budget Program. Washington, DC: U.S. Environment Protection Agency.
- Driscoll, C. T., et al. 2001. Acidic Deposition in the Northeastern United States: Sources and Inputs, Ecosystem Effects, and Management Strategies. *Bioscience* 51(3):180–98.
- Emerich, M. 1996. Industry Growth: 22.6%. *Natural Foods Merchandiser* June:1-39.
- Farrell, A. E. 2001. The Political Economy of Interstate Public Policy: Power-Sector Restructuring and Transboundary Air Pollution. In *Improving Regulation, Cases in Environment, Health, and Safety*, edited by P. Fischbeck and S. Farrow, chap. 6. Washington, DC: Resources for the Future.
- Farrell, A. E., and T. J. Keating. 2002. Transboundary Environmental Assessments: Lessons from OTAG. *Environmental Science & Technology* 36(12):2537–44.
- Geller, H. 1997. National Appliance Efficiency Standards in the USA: Cost-Effective Federal Regulations. *Energy and Buildings* 26:101–9.
- General Accounting Office (GAO). 1981. DOE Efforts to Analyze the Impact of Appliance Efficiency Standards. Report no. 117433. Washington, DC: General Accounting Office.
- General Accounting Office (GAO). 1982. Asbestos in Schools: A Dilemma. Report no. CED-82-114. Washington, D.C.: General Accounting Office.
- General Accounting Office (GAO). 1984. Report to the Congress by the Comptroller of the United States: An Analysis of Issues

- Concerning "Acid Rain." Report no. GAO/RCED-85-13. Washington, DC: General Accounting Office.
- Godfrey, P. J. 1988. *Acid Rain in Massachusetts: The Massachusetts Acid Rain Research Program in Action*. Amherst: Water Resources Research Center, University of Massachusetts at Amherst.
- Government Accountability Office (GAO). 1993. *Balanced Budget Requirements: State Experiences and Implications for the Federal Government*. Report no. GAO/AFMD-93-58BR. Washington, D.C.: Government Accountability Office.
- Government Accountability Office (GAO). 2005. *21st Century Challenges; Reexamining the Base of the Federal Government*. Report no. GAO-05-325SP. Washington, DC: Government Accountability Office.
- Greene, C., and A. Kremen. 2003. U.S. Organic Farming in 2000–2001: Adoption of Certified Systems. *Agriculture Information Bulletin* no. 780. Washington, DC: Economic Research Service, U.S. Department of Agriculture.
- Hager, George, and Eric Pianin. 1997. *Mirage*. New York: Random House, 1997.
- Hasselmann, K., et al. 2003. The Challenge of Long-Term Climate Change. *Science* 302:1923–25.
- Hecl, H. 2001. The Politics of Welfare Reform. In *The New World of Welfare*, edited by R. M. Blank and R. Haskins. Washington, DC: Brookings Institution Press.
- Ingram, H., and M. Ingram. 2005. Creating Credible Edibles: The Alternative Agriculture Movement and Passage of U.S. Federal Organic Standards. In *Routing the Opposition: Social Movements, Public Policy, and Democracy*, edited by D. Meyer, V. Jenness, and H. Ingram, Chapter 4. Minneapolis: University of Minnesota Press.
- Intergovernmental Panel on Climate Change (IPCC). 2001. *Climate Change 2001: Third Assessment Report: The Scientific Basis; Impacts, Adaptation, and Vulnerability; Mitigation*. Cambridge: Cambridge University Press.
- Janofsky, M. 2005. Judge Rejects Challenge to Bush Education Law. *New York Times*, November 24, A14.
- Kayden, J. S. 2000. National Land-Use Planning in America: Something Whose Time Has Never Come. *Washington University Journal of Law and Policy* 3:445.
- Keeler, Andrew. 2004. *An Evaluation of State Carbon Dioxide Reduction Policies*. Washington, DC: Climate Policy Center.
- Kingdon, John W. 1995. *Agendas, Alternatives and Public Policies*. 2nd ed. New York: HarperCollins.
- Kline, John M. 1999. Continuing Controversies over State and Local Foreign Policy Sanctions in the United States. *Publius* 29(2):111–35.
- Krier, J. E., and Edmund Ursin. 1977. *Pollution and Policy: A Case Essay on California and Federal Experience with Motor Vehicle Air Pollution 1940–1975*. Berkeley: University of California Press.
- Kulp, J. L., and C. N. Herrick. 1987. *The Causes and Effects of Acid Deposition. Interim Assessment, National Acid Precipitation Assessment Program*. Washington, DC: U.S. Government Printing Office.
- LeLoup, Lance. 2005. *Parties, Rules and the Evolution of Congressional Budgeting*. Columbus: Ohio State University Press.
- Longenecker, Jane. 1979. Another Cost-Benefits Dispute Erupts—This Time over Efficiency of Appliances. *National Journal* 11(49):2065.
- Lyday, N. 1976. *The Law of the Land: Debating National Land-Use Legislation 1970–1975*. Washington, DC: Urban Institute.
- Madsen, T., et al. 2005. *Energy Efficiency: The Smart Way to Reduce Global Warming Pollution in the Northeast*. Los Angeles: National Association of State PIRGs.
- Manna, Paul. 2006. *School's In: Federalism and the National Education Agenda, 1965–2001*. Washington DC: Georgetown University Press.
- McInerney, E. J., and V. Anderson. 1997. Appliance Manufacturers' Perspective on Energy Standards. *Energy and Buildings* 26:17–21.
- Metcalfe, S. E., et al. 1998. Nitrogen Deposition and Strategies for the Control of Acidification and Eutrophication across Great Britain. *Water, Air and Soil Pollution* 107(1–4):121–45.
- Mossberger, K. 2000. *The Politics of Ideas and the Spread of Enterprise Zones*. Washington DC: Georgetown University Press.
- Nadel, H., and D. Goldstein. 1996. *Appliance and Equipment Efficiency Standards: History, Impacts, Current Status and Future Directions*. Report no. ACEEE-A963. Washington, DC: American Council for an Energy-Efficient Economy.
- Nathan, Richard. 2005. There Will Always Be a New Federalism. Paper presented at Federalism Workshop, American Enterprise Institute, Washington, DC, December 14.
- National Electrical Manufacturers Association. 2005. NEMA Assessment of the Energy Policy Act of 2005. Available at [http://www.nema.org/gov/energy/upload/2005EnergyHandout%20\\_1\\_.pdf](http://www.nema.org/gov/energy/upload/2005EnergyHandout%20_1_.pdf) (accessed October 10, 2005).
- National Highway Traffic Safety Administration (NHTSA). 2005. Average Fuel Economy Standards for Light Trucks Model Years 2008–2011. Docket no. 2005-22223. Washington, DC: U.S. Department of Transportation.
- National Research Council (NRC), Committee on Tropospheric Ozone Formation and Measurement. 1991. *Rethinking the Ozone Problem in Urban and Regional Air Pollution*. Washington, DC: National Academy Press.
- National Research Council (NRC). 2006. *State and Federal Standards for Mobile Source Emissions*. Washington, DC: National Academies Press.
- Natural Resources Defense Council and Public Service Electric and Gas Company (NRDC/PSEG). 1998. *Benchmarking Air Emissions of Electric Utility Generators in the United States*. New York: Natural Resources Defense Council.
- New England Council. 2005. Letter to the Governors of States Participating in the Regional Greenhouse Gas Initiative. Boston: New England Council.
- New State Ice Co. v. Liebmann*, 285 US 262, 311 (1932) (Brandeis, J., dissenting).
- Peters, A. H., and P. S. Fisher. 2002. State Enterprise Zone Program—Have They Worked? W. E. Upjohn Institute for Employment Research. Available at <http://www.upjohninst.org/publications/ch1/sezp.pdf> (accessed March 20, 2006).
- Pew Center on Global Climate Change. 2005. Analysis of President Bush's Climate Change Plan. Available at <http://www.pewclimate.org>

- pewclimate.org/policy\_center/analyses/response\_bushpolicy.cfm (accessed October 20, 2005).
- Pew Center on Global Climate Change. 2006a. States Poised to Require Vehicle GHG Emissions Standards. Available at [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/vehicle\\_ghg\\_standard.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/vehicle_ghg_standard.cfm) (accessed March 1, 2006).
- Pew Center on Global Climate Change. 2006b. States with Appliance Efficiency Standards. Available at [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/energy\\_eff\\_map.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/energy_eff_map.cfm) (accessed April 25, 2006).
- Portney, P. R., and R. N. Stavins. 2000. *Public Policies for Environmental Protection*. Washington, DC: RFF Press.
- Posner, P. 1998. *The Politics of Unfunded Mandates: Whither Federalism?* Washington, DC: Georgetown University Press.
- Pulsipher, I. 2005. Evaluating Enterprise Zones. National Conference of State Legislatures. Available at <http://www.ncsl.org/programs/econ/evalentzones.htm> (accessed March 20, 2006).
- Rabe, Barry. 2002. *Greenhouse and Statehouse: The Evolving State Government Role in Climate Change*. Arlington, VA: Pew Center on Global Climate Change.
- Rawson, Jean M. 2005. Organic Agriculture in the U.S.: Program and Policy Issues. CRS Report no. RL31595. Washington, DC: Congressional Research Service, Library of Congress.
- Regens, J. L. 1993. Acid Rain. In *Keeping Pace with Science and Engineering: Case Studies in Environmental Regulation*, edited by National Academy of Engineering, 165-188. Washington, DC: National Academies Press.
- Reitze, A. W. 1999. The Legislative History of US Air Pollution Control. *Houston Law Review* 36:679.
- Roberts, Paul Craig. 1996. Balance the Budget—But Forget a Constitutional Amendment. *Business Week*, December 9, 1996.
- Rome, A. 2001. *The Bulldozer in the Countryside*. Cambridge: Cambridge University Press.
- Rubin, Irene. 2002. Perennial Budget Reforms: Budget Staff versus Elected Officials. *Public Budgeting and Finance* 22:3.
- Sager, Michelle. 2001. *One Voice or Many?: Federalism and International Trade*. New York: LFB Scholarly Publishing.
- Samson, P. R. 1998. Non-state Actors and Environmental Assessment: North American Acid Rain and Global Climate Change. ENRP Discussion Paper no. E-98-10. Cambridge, MA: Kennedy School of Government, Harvard University.
- Saturno, James V. 1994. *A Balanced Budget Amendment: Background and Constitutional Options*. Washington, DC: Congressional Research Service.
- Saturno, James V. 1998. *A Balanced Budget Constitutional Amendment: Procedural Issues and Legislative History*. Washington, DC: Congressional Research Service.
- Schick, Allen. 1997. Testimony. U.S. House Budget Committee Hearings, February 5, 1997.
- Schlary, C., and K. Culligan. 1996. *The Role of EPA's Acid Rain Division in the Ozone Transport Commission's NO<sub>x</sub> Budget Program*. Washington, DC: U.S. Environmental Protection Agency.
- Shindell, D. T., et al. 2003. Preindustrial-to-Present-Day Radiative Forcing by Tropospheric Ozone from Improved Simulations with the GISS Chemistry-Climate GCM. *Atmospheric Chemistry and Physics* 3:1675–1702.
- Sperling et al. 2004. The Price of Regulation. *Access: The Magazine of the University of California Transportation Center* 25:9-18.
- Teske, P. 2005. Checks, Balances, and Thresholds: State Regulatory Re-enforcement and Federal Preemption. *PS: Political Science and Politics* 38(3).
- Thomas, Clive S., and Ronald J. Hrebena. 1999. Interest Groups in the States. In *Politics in the American States*, edited by Virginia Gray, Russell L. Hanson, and Herbert Jacob, Chapter 4. Washington, DC: CQ Press.
- U.S. Department of Agriculture. 1998. Agricultural Productivity in the United States 1948–1996. Report no. ERS-AIB-740. Washington, DC: Economic Research Service, U.S. Department of Agriculture.
- U.S. Environmental Protection Agency (U.S. EPA). 1984. *Federal Efforts to Control Asbestos Hazards: Hearings before the Subcommittee on Commerce, Transportation and Tourism, House Energy and Commerce Committee*. 98th Cong., 1st sess., September 26.
- U.S. Environmental Protection Agency (U.S. EPA). 1993. *Federal Register*. January 13.
- U.S. Environmental Protection Agency (U.S. EPA). 2004. Origins of Modern Air Pollution Regulations. Available at <http://www.epa.gov/air/oaqps/eog/course422/apc1.html> (accessed September 19, 2005).
- U.S. Environmental Protection Agency (U.S. EPA). 2005a. Acid Rain Program 2004. Progress report no. EPA 430-R-05-012. Washington, DC: Office of Air and Radiation Clean Air Markets Division, U.S. Environmental Protection Agency.
- U.S. Environmental Protection Agency (U.S. EPA). 2005b. Currently Designated Nonattainment Areas for All Criteria Pollutants. Available at <http://www.epa.gov/oar/oaqps/greenbk/andl.html#CALIFORNIA> (accessed November 4, 2005).
- U.S. Environmental Protection Agency (U.S. EPA). 2006. Inventory of U.S. Greenhouse Gas Sources and Sinks: 1990–2004. U.S. EPA report no. 430-R-06-002. Available at <http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenter-PublicationsGHGEmissionsUSEmissionsInventory2006.html> (accessed April 16, 2006).
- Victor, David G., Joshua C. House, and Sarah Joy. 2005. A Madisonian Approach to Climate Policy. *Science* 309:1820–21.
- Weaver, R. K. 2000. *Ending Welfare as We Know It*. Washington, DC: Brookings Institution Press.
- Wisconsin Department of Natural Resources (WDNR). 2005. Acid Rain in Wisconsin. Available at <http://www.dnr.state.wi.us/org/aw/air/health/acidrain.htm#D> (accessed October 20, 2005).
- Wong, Kenneth K. 2006. Education Policy and Management. Paper presented at the annual conference of the American Political Science Association, Philadelphia, September 1.

## About the World Resources Institute

The World Resources Institute is an environmental think tank that goes beyond research to create practical ways to protect the Earth and improve people's lives. Our mission is to move human society to live in ways that protect the Earth's environment for current and future generations.

Our programs meet global challenges by using knowledge to catalyze public and private action

- To reverse damage to ecosystems. We protect the capacity of ecosystems to sustain life and prosperity.
- To expand participation in environmental decisions. We collaborate with partners worldwide to increase people's access to information and influence over decisions about natural resources.
- To avert dangerous climate change. We promote public and private action to ensure a safe climate and a sound world economy.
- To increase prosperity while improving the environment. We challenge the private sector to grow by improving environmental and community well-being.

In all its policy research, and work with institutions, WRI tries to build bridges between ideas and actions, meshing the insights of scientific research, economic and institutional analyses, and practical experience with the need for open and participatory decision making.





**WORLD  
RESOURCES  
INSTITUTE**

**World Resources Institute  
10 G Street, NE  
Washington, DC 20002 USA**

**w w w . w r i . o r g**

ISBN 978-1-56973-663-0



9 781569 736630