

ISSUE BRIEF

Promoting Innovative Climate Adaptation through Federalism

Winston Harrington



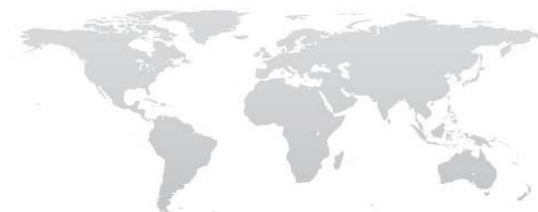
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Resources for the Future is an independent, nonpartisan think tank that, through its social science research, enables policymakers and stakeholders to make better, more informed decisions about energy, environmental, natural resource, and public health issues. Headquartered in Washington, DC, its research scope comprises programs in nations around the world.



Promoting Innovative Climate Adaptation through Federalism

Winston Harrington¹

As defined by the Intergovernmental Panel on Climate Change, adaptation includes a set of actions to moderate harm or exploit beneficial opportunities in response to climate change. To date, little research has addressed public policy options to frame the nation's approach to adapt to a changing climate. In light of scientific evidence of extreme and unpredictable climate change, prudent policy requires consideration of what to do if markets and people fail to anticipate these changes, or are constrained in their ability to react. This issue brief is one in a series that results from the second phase of a domestic adaptation research project conducted by Resources for the Future. The briefs are primarily intended for use by decisionmakers in confronting the complex and difficult task of effectively adapting the United States to climate change impacts, but may also offer insight and value to scholars and the general public. This research was supported by a grant from the Smith-Richardson Foundation.

Policy Recommendations

The federal government can use generous grants to encourage state and local governments—and perhaps other organizations—to adopt and implement innovative experimental local programs that may someday be of use in adapting to global climate change. To assure the credibility and efficacy of the grant program, a nationally recognized organization with impeccable scientific credentials should appoint a committee to select winning proposals through an impartial peer-review process. A separate committee selected in a similar manner should evaluate these winning projects *ex post*.

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¹ Winston Harrington is a senior fellow at Resources for the Future.



Who Is Responsible for Adapting to Climate Change?

Unlike other issue briefs in this series, which concern the *what* and *how* of climate adaptation, this one is concerned primarily with the *who*. Adaptation could require major changes from all types of social institutions—households, firms, nonprofits, and above all, governments.

The conversation about climate adaptation policy has barely begun. Most climate-related governmental activities have attempted to mitigate climate change rather than adapt to it. In the United States, this is true not only of the national government, but most state and local governments as well. Unfortunately, these local and state efforts at climate mitigation are, at best, a waste of time and effort. Because greenhouse gas (GHG) emissions are a global externality, no state can capture more than a tiny fraction of the benefits of its own mitigation efforts.

In contrast, state and local adaptation efforts will be crucial because many of the likely impacts of a changing climate will affect matters where state and local government already play an important role, including the construction and protection of urban infrastructure, regulation of land use, enforcement of building codes, and, certainly not least, natural disaster response. Indeed, some local governments have already begun to think about climate adaptation. Take the important example of sea-level rise along the eastern seaboard of the United States, where rising ocean levels combine with widespread land subsidence to produce a rate of sea-level rise higher than in most coastal regions. In this case, state and local land use planning has already begun to take into consideration issues of coastal erosion, inundation, and wetlands migration (U.S. Climate Change Science Program 2009).

Federalism and Policy Innovation

In a federal system like that of the United States, the central government is supreme, but individual states and local governments have significant powers in many policy areas. Federalism is concerned with the allocation of the powers and tasks of government among the various levels. These allocations of responsibility are not tidily disjointed; federal and state governments share responsibility in almost every policy area, sometimes cooperatively and other times litigiously. Nor are they static. They can be affected by such factors as technology, income levels, and changes in individual preferences. Roads, for example, were primarily a state function a century ago, reflecting a world in which most road travel was local. With the growing availability of highways and vehicles capable of allowing high speeds and the accompanying growth demand for interstate truck and auto travel, highways also became a major interest of the U.S. government. The power of the national government relative to the states has grown considerably since the



Civil War, not a surprising trend in an economy where economic activity increasingly transcends state boundaries. Nonetheless, states and local governments retain important powers.

Along with the flexibility that allows governments to take on the responsibilities for which it is best suited, a federal system possesses another advantage that was not altogether appreciated when the Constitution was signed in 1787 but subsequently has been an important source of policy innovation. A federal system can encourage thoughtful policy experimentation by states or local governments. As Justice Louis Brandeis wrote in a famous Supreme Court opinion 77 years ago, “It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”²

Time and time again “a single courageous state” has gone out on a limb, policy-wise, and gained crucial experience to be shared with the other states, a pattern that may prove particularly useful in the context of climate adaptation. Examples include the following:

- *Worker safety.* In 1836, Massachusetts enacted the first child labor law in the United States. Several states followed this example, but it was not until 1938 that Congress enacted legislation that effectively ended child labor in manufacturing.
- *Human rights.* Massachusetts was also the first state to outlaw slavery, which the State Supreme Court ruled was incompatible with the state constitution in 1793. The right to vote was first extended to women by the territory of Wyoming, which, when admitted to the Union in 1890, became the first state to grant female suffrage.
- *Internal improvements.* One of the most significant public works projects in American history—the Erie Canal—was conceived and entirely financed by the State of New York, at a time when it was not even clear to many observers if such public works were constitutional. It opened in 1825.
- *Welfare reform.* In 1988, Wisconsin introduced “Wisconsin Works,” a fundamental reform of state welfare policy that phased out welfare for anyone deemed fit to get a job. The Wisconsin reforms became the model for equally sweeping federal welfare reforms, when the Aid for Families with Dependent Children program was replaced by Temporary Assistance for Families in Need in 1997.

To be sure, not all experiments were a success for the states initiating them, and sometimes not for the emulating states or the national government. But even then, other states were able to watch and learn. For example:

² *New State Ice Co. v. Liebman*, 285 US 262 (1932).



- *Prohibition.* Kansas became the first state to outlaw alcoholic beverages, putting a prohibition article in its 1881 Constitution. Other states followed suit, leading eventually to the ratification of the 18th Amendment to the U.S. Constitution in 1919. Sometimes, watching and learning does no good.
- *Electricity Restructuring.* In 1996, California became the first large state, after New Hampshire, to pass legislation opening retail electricity markets to competition and initiating a transition to full deregulation of the price consumers pay for electric energy. After a disastrous summer of high prices and rolling blackouts in 2000, California suspended retail competition in 2001, effectively halting all federal efforts to impose retail competition nationwide. Other states were able to study the California experience and change the details to avoid California's problems. Today a majority of states have at least rudimentary markets in electricity generation.

Despite the numerous examples of interesting state-initiated policy experiments, it is probably true that this feature of federalism has not been exploited as much as it might have been. In the first place, these state experiments never had a formal evaluation process, which is not surprising given that most predated the modern approach to empirical policy analysis.

Perhaps a more important issue is that the incentives for states to experiment with novel policies are probably smaller than what would be optimal. When a state undertakes a policy intervention of this sort, its citizens bear the risks of a failed experiment, yet they capture only some of the potential benefits. The policy produces new knowledge of what works and what does not, knowledge that can be used by other states and the federal government to design other policies. The potential value of this information is large, and yet few of the information benefits accrue to the state implementing the policy—and bearing the risks. Other states are likely to free-ride; this market failure leads states to experiment little with new policies.

Moreover, as time goes by, it seems to be getting harder for states to engage in this sort of experimental policy innovation. As federal power has grown relative to that of the states, significant state intervention has become more difficult because any intervention is constrained by existing federal policies and hostage to changes in those policies. A federal policy already in place multiplies the risk. Of the interventions mentioned above, the only one enacted in the teeth of an existing federal policy is the Wisconsin welfare reform. In some areas, notably the environment, policy is about as centralized as it can be. Nearly all the major environmental statutes are federal statutes, and though there are some exceptions, state legislation is largely designed to implement the federal policy. This in spite of the fact that many environmental problems are heterogeneous across state lines and in different regions of the country.



Using Federal Funding to Encourage Local Policy Experiments

The enormous range of climate adaptations that may be required and the probable characteristics that will affect public decisionmaking—massive uncertainty regarding effects and their timing, potentially high cost, political contentiousness—suggest that much is still to be learned about adaptation policy. Fortunately, we have time, as well as a growing abundance of policy ideas as more researchers and entrepreneurs turn their attention to adaptation. A program of generous and competitive federal grants can ensure that state and local governments test these potentially useful policy ideas in a real-world environment.

This is not an altogether new idea. New highway legislation in 1991 appropriated \$25 million over five years in grants to states for the planning and implementation of road pricing programs. The program has continued, with \$59 million allocated in the most recent funding period, although these funding levels appear too low to play a significant role in encouraging actual implementation of road pricing.

A more promising (and better funded) example of this approach is the \$4.35 billion Race to the Top Fund, a new competitive funding policy in the U.S. Department of Education for allocating federal education resources to the states for education reform. Forty states and the District of Columbia submitted applications, which a peer-reviewed panel judged on the quality and credibility of programs to develop better methods for measuring student performance, create data systems to support such performance measurement, reward outstanding teachers and improve teacher accountability, and turn around the least-successful schools. In the first round, which expired on April 1, 2010, the program awarded Delaware and Tennessee \$100 million and \$500 million, respectively. For the second round, which had an application deadline of June 1, 2010, most of the remainder (\$3.4 million) is available, and each state has maximum proposal budget depending on its student population (U.S. Department of Education 2010).

Based on criteria weighting that the Department of Education issued during the first round, the review panels have been instructed to reward the proposals showing the most credible commitment to improving teacher accountability. States demonstrating this commitment would have to point to new teacher contracts or regulations that eliminated permanent job security and compensation based only on seniority, and by the April deadline, 15 states had done so. As the *New York Times* put it, “Before [Education Secretary] Duncan had dispensed a nickel, the country had seen more school reform than it had in decades” (Brill 2010).

One lesson from this example is that if enough federal money is at stake, local and state politicians will find the will to stand up to powerful entrenched interests. Acquiring and exhibiting backbone will also come in handy when local and state officials have to take on entrenched interests to formulate effective responses to a changing climate.



An Application to Climate Adaptation

In the spirit of the Race to the Top fund, the federal government would be wise to set up an administrative unit to administer grants to local and state organizations to devise real policy experiments to enable learning about climate change adaptation policy. An obvious candidate would be a new unit within the U.S. Global Change Research Program (USGCRP), an umbrella group of the federal government's top climate scientists, because it would have a focus on research, experience in giving out scientific grants, and very likely the most bulletproof reputation for objectivity and independence. On the other hand, such a body would be unlikely to have the political savvy or the deep understanding of federal regulation of other candidate bodies. Just to have a way to refer to it, I will call it the Policy Grants Division.

Like the Race to the Top Fund, this program's crucial characteristics would be a resource endowment capable of providing credible incentives to local and state applicants and an insistence that policies are not just planned, but also implemented and evaluated. It would also differ from the Race to the Top in important ways. First, the grantees would not necessarily be entire states. Local governments or perhaps even NGOs would also be encouraged to apply. (Part of their application, obviously, would be assurances of any state-level approvals that may be necessary.) Second, the Race to the Top seems to presume a particular vision of what kinds of educational reforms are needed, which vision includes better teacher accountability, standardized testing and benchmarking, and greater ease in founding charter schools. That is, it seems as though the Race to the Top is less about research than it is about encouraging implementation of certain presumably well-tested ideas. These presumptions may be entirely appropriate in a schools context, which has been subjected to empirical investigation for many years. (The teachers' unions may disagree, of course.) In contrast, policy analysis for climate adaptation is in its infancy. The research objective is paramount, and one should be leery about making presuppositions about what works and what does not.

The wonkisphere has no shortage of interesting ideas; the papers in this volume are replete with them. Not all are appropriate for immediate consideration, of course. Timing is everything, and a good idea can be implemented too early or too late. This is especially true for more temporally distant impacts like sea-level rise. There is no need to rush into raising docks or piers, for example, since they are replaced or refurbished at regular intervals. On the other hand, if land purchases or set-asides need to be made, say, for construction of dikes or to allow wetland migration, it might be more cost-effective to acquire the rights now, before additional coastal development makes the cost of the needed land prohibitive (U.S. Climate Change Science Program 2009).

An additional vast array of policy ideas directly addresses the types of effects that climate change is expected to exacerbate. For example, programs to improve prevention of and response to major wildfires are worthy of consideration even without the specter of climate change, but



climate change only increases their payoff. With the proviso that this funding source should not be allowed to degenerate into just another revenue-sharing program for the states, there should nonetheless be scope for testing such ideas.

The Policy Grants Division would have a relatively large and secure funding base from which it would periodically award grants to state and local governments to implement policies that might aid in climate change adaptation. I see two possible types of projects funded: unsolicited ideas that initiate in the states and localities themselves, and solicited proposals to test specific promising policy ideas. Unlike most research grants, the main purpose of these funds would not be to fund researchers themselves. Rather, it would be to compensate the citizens of a particular state for taking the risk of implementing an untried policy.

I see the following four steps as essential to the credibility and efficacy of this program:

- *A competitive evaluation process.* The program will invite state and local government agencies to submit proposals for funds to implement actual policy demonstration projects. Because it is difficult to say how much enticement a state or local agency will require to submit a proposal, there should be no limit on the amount applicants may request. Proposals will be judged on the basis of their likely contribution to practical knowledge, their credibility with respect to ultimate implementation, their relevance to other states or localities, and their budget.

Because the goal is to generate real policy experiments, it is possible that interesting proposals will conflict in some way with existing federal laws and regulations. Disqualifying such proposals would avoid the conflicts, but that might eliminate some interesting and useful ideas from consideration. One possibility would be a process whereby the proposing state could seek a waiver from the relevant federal agency for the purposes of the experiment. Whether such waivers should exist and what sorts of criteria can be used for justification is beyond the scope of this brief.

- *An independent review panel chosen by a committee of qualified experts outside the political process.* With the increase in funding suggested here, safeguards would need to be established so that the program would not degenerate into a pork-barrel program. To ensure the proposals are evaluated on a scientific and not a political basis, natural and social scientists knowledgeable about the particular subject area should review them. The U.S. Global Change Research Program or the more independent National Academy of Sciences could establish this peer-review committee.
- *No transfers of grant monies (beyond initial planning grants) before the policy begins to take effect.* Since the whole point is to gain actual experience with the incentive policy, and since decisionmakers in the state or local government agencies



responsible for implementing a policy will very likely face intense pressure to renege, their feet will need to be held to the fire.

- *Independent ex post evaluation by independent researchers.* To get the most out of the experiment and maximize its credibility, scientific evaluation of outcomes is important. One possibility would be to have the independent and prestigious National Academy of Sciences convene a group of experts to perform credible assessments.

Conclusion

A few years ago former Defense Secretary Donald Rumsfeld famously said, “There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we now know we don’t know. But there are also unknown unknowns. These are things we do not know we don’t know” (Department of Defense 2002).

In climate adaptation policy, the “known knowns” category is quite empty relative to the other two Rumsfeld mentioned. Our ignorance of the implications of climate change and the ways we might adapt to it is profound and unlikely to improve significantly until the changes are upon us. A program of experimental federalism might help the country resolve some of the known unknowns, while simultaneously revealing important unknown unknowns in a relatively low-cost way.

Its advantages could extend even beyond this. There is one unmentioned category in Rumsfeld’s epistemological classification: the unknown knowns, useful knowledge that exists but is not yet accessible to all the people who can use it. Successful climate change adaptation is likely to depend substantially on intensely local conditions. If so, anything that empowers local citizens to bring local experience to bear is likely to advance knowledge and policy.



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