

*Adaptive Responses to Multilateral Environmental Accords:
Bringing the Local Back In*

By

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ABSTRACT

Global environmental problems challenge the human community in profound ways. New earth system governance forms are emerging through the dynamic interplay between global and local efforts to address transboundary environmental problems. While the 1000+ multilateral environmental accords negotiated since the 1972 Stockholm Conference on the environment are testimony to a continued focus on international collaboration and coordination as key to resolving such problems, less known is the fact that many of these multilateral environmental accords are also the impetus for the development of additional adaptive responses at the local level, particularly when information is flowing during and shortly after the negotiation and implementation of an accord. For example, within the year after the Kyoto Protocol came into effect on February 16, 2005, 220 U.S cities joined the Mayors Agreement to take direct action to against global warming and meet or beat the U.S. emissions reduction target despite the refusal of the federal government to ratify the treaty. More recently, many states have effectively ratified the Kyoto Protocol and are committing to greenhouse gas emissions reductions equivalent to those called for by the Kyoto Protocol. Thus, federal inaction on climate change actually spurred increased action and innovation at the local and state levels further extending the web of institutional governance mechanisms for the environment. This article analyzes the development of new adaptive governance forms responding to the Kyoto Protocol by focusing on the interplay between global and local politics. The findings reveal that the development of local adaptive responses coincides with, and often directly corresponds to, the focus of a given multilateral environmental agreement. The new adaptive governance forms emerge during negotiation and implementation of multilateral environmental accords and result from an increase in information about the problem itself and the differences among the position of actors seeking to address the issue.

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Introduction

“Think global, act local”

(Rene Dubos, 1972. Advisor to the United Nations Conference on the Environment, Stockholm, Sweden).

Global environmental problems challenge the human community in profound ways. New earth system governance forms are emerging through the dynamic interplay between global and local efforts to address transboundary environmental problems. While the 1000+ multilateral environmental accords negotiated since the 1972 Stockholm Conference on the environment are testimony to a continued focus on international collaboration and coordination as key to resolving such problems, less known is the fact that many of these multilateral environmental accords are also the impetus for the development of additional adaptive responses at the local level, particularly when information is flowing during and shortly after the negotiation and implementation of an accord.

The Issue of Climate Change

“We are in a race to see if we can cross the political tipping point and implement real solutions before we rush past the planetary tipping point.”

(Jeremy Symons, Director of National Wildlife Federation’s Global Warming Campaign, 2007).

With regard to the issue of climate change, once observed changes in the climate were linked to anthropogenic sources, the human community sought to address a source of the problem through the establishment of an international agreement. The first major international response came in 1992 with the signing of the United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC’s objective is stabilizing GHGs at a level that would prevent “dangerous anthropogenic interference with the climate system” (UNFCCC 1992). UNFCCC requires countries to monitor and report on the inventories of GHG emissions. As a “framework”, the convention was intended to be modified over time and the first addition to the treaty was adopted in 1997, the Kyoto Protocol. The protocol set mandatory targets for GHG emissions for most industrialized countries and

called for and overall reduction of GHG emissions of 5% below 1990 levels. Clinton signed the treaty indicating the US support for the protocol.

When ratification of the treaty proved difficult, states, counties and cities took action. For example, within the year after the Kyoto Protocol came into effect on February 16, 2005, 220 U.S cities joined the Mayors Agreement to take direct action to against global warming and meet or beat the U.S. emissions reduction target despite the refusal of the federal government to ratify the treaty. Seattle Mayor Greg Nickels put it succinctly: “The demand for action on climate change is growing every day, in big cities, and small towns, in the heartland and on the coasts, and now across the world” (Garcia 2007). The “Mayors Ten-Point Plan: Strong Cities, Strong Families for a Strong America” now serves as the blueprint for new federal legislation before Congress. Mayors from 500 cities have signed the “US Conference of Mayors Climate Protection Agreement” wherein mayors agree to reduce carbon emissions below 1990 levels, which is exactly what the Kyoto Protocol mandates. “What started in Seattle as a protest against the policies of delay has a coalition of communities across America that are making a difference for the future of our planet” (Nickels as quoted in Garcia 2007). More recently, mayors from the 40 largest cities in the world met in New York to discuss ways in which cities can effectively address climate change. As part of the Clinton Climate Initiative, mayors discussed how their cities are responding to global climate change. The focus is on developing joint initiatives to combat increases in greenhouse gas emissions, and the emphasis is on the financial benefits of addressing climate change. Toronto’s mayor recently asserted: “Where national governments can’t or won’t act, cities will” (Editorial, 2007a.). Cities have been taking action on the issue for several years (Bulkeley and Betsill, 2003) and they are now coordinating with other urban centers around the world.

In addition to serious action in cities, several states have effectively ratified the Kyoto Protocol and are committing to greenhouse gas emissions reductions equivalent to those called for by the Kyoto Protocol. Thus, federal inaction on climate change actually spurred increased action and innovation at the local and state levels further extending the web of institutional governance mechanisms for the environment. Recent congressional action and judicial support reflect concern that the federal government support local

efforts to reduce greenhouse gas emissions, improve energy efficiency and increase energy independence in cities, counties and states.

This article analyzes the development of new adaptive governance forms responding to the Kyoto Protocol by focusing on the interplay between global and local politics by focusing on the policy development in three states: California, Minnesota and New Hampshire. The paper is divided into three sections. The first section explores various debates about the sources of environmental protection. It highlights findings from the regime theory and globalization literatures with the goal of bringing us up to speed on the scholarly literature and focusing on the question, “what do we already know”. The second section analyzes policy development in three states and highlights the timing and content of legislation that seems to correspond to global negotiations. The third section presents key findings from the cases and discusses these within the context of sustainable development.

The findings reveal that the development of local adaptive responses coincides with, and often directly corresponds to, the focus of a given multilateral environmental agreement. The new adaptive governance forms emerge during negotiation and implementation of multilateral environmental accords and result from an increase in information about the problem itself and the differences among the position of actors seeking to address the issue. The article explores the synergy between local and international environmental policies, with particular focus on local responses to global accords, and global embracing of local standards. It aims to assess the potential reinforcement between these two levels of analysis by process tracing the development of actions corresponding to international efforts. I focus attention on three states within the federal system in an effort to isolate factors impacting policy development. The case selection provides variation on the type of state response and illustrates the creativity capacity across the country.

Bringing the Local Back In

Across all issue areas in international relations and comparative politics, scholars have debated the impact of the global, regional and local levels. The process of

globalization is complicated; theories purporting to explain the dynamics are numerous and varied. Some theories contend it is a natural process (Friedman 2000), where others argue it is a product of deliberate actions of actors seeking to promote the ideology of capitalism globally (Wallerstein 1999). Some hail it for producing a variety of positive material outcomes (Friedman 2000; Mickelthwait and Wooldridge 2000), while others lament the way it is undermining sovereignty, destroying cultures and washing out unique identities (Hirst and Thomson 1996; Mittelman 1996). According to one line of argument, globalization undermines national laws by encouraging harmonization and dictating the range of policy options. There are many troubled areas where globalization has “spread its blessings unevenly” (Friedman 2000). Another line of reasoning highlights the ways in which states have become more important because they are the key players in international negotiations and the creators of global norms. Arguments from this side of the debate suggest that new heterogeneity resulting from globalization will lead to new mixtures of cultures and ideas (Featherstone et al, 1995), and that integration is actually spurring a new defense of local traditions (Barber 1995). Just as there are many definitions for globalization, there are a wide range of competing theories purporting to explain its impact. From this debate, we gain a deeper understanding of the dynamics between the local, regional and global levels of analysis.

In the arena of global environmental politics, scholars have focused significant attention on the international level of analysis. Regime analysis focuses our attention on the development of policy around issues in which actor’s interests converge (Krasner 1983). Recognizing the many environmental problems are in the arena of common pool resources whereby one nation’s actions alone may not be enough to resolve the problem, actors develop a variety of mechanisms including multilateral accords. We’ve hailed the development of international treaties to address a variety of important global environmental problems including biodiversity loss, ozone depletion, ocean pollution and climate change, to name a few. The literature on regime influence and effectiveness is extensive (Choucri 1993; Haas 1993; Princen and Finger 1994; Mitchell 1998; Victor, Raustiala and Skolnikoff 1998; Young 1999; Helm and Sprinz 2000; etc.). Most of the studies attempt to determine and explain the impact of regimes on state behavior (Young 1999). Others investigate the design of regimes with an eye toward determining the most

useful regime types and encouraging the replication of those deemed effective (Mitchell and Keilbach 2001; Hunter and Smith 2005). With regard to globalization, ideas emerging from concerns about “petrolism” have fostered concern for addressing climate change along the political spectrum from left to right. In his newest book, Thomas Friedman asserts that the most important foreign and domestic policy issue is energy independence and green should no longer be ridiculed as “something only liberals, tree-huggers and sissies believe is possible or necessary”. According to Friedman, “being green, focusing the nation on greater energy efficiency and conservation, is not some girlie-man issue. It is actually the most tough-minded, geostrategic, pro-growth and patriotic thing we can do” (Friedman 2007). Now we find connections between interdependence and independences converging on the topic of the environment.

Just at the time when the literature appeared to hit a wall on understanding what was working and what was not effective, political processes and discourse dynamic emerged below the regime radar screen and at the level of the states, county and city. This is not only true in cities in America, but also around the world. Local responses to global accords are profound and substantial; the new phenomena demands our attention. Daily reports of cities, mayors and locales responding to international environmental dilemmas are now common and activists and scholars alike are energized by the movement and new data. In an attempt to capture the synergy between the local and the global, the term “glocal” emerged to describe how the global and local were interrelated. The term was first developed within Japanese business circles in the 1980s, and popularized by a sociologist and globalization scholar, Roland Robertson. As the forces of globalization grew stronger, emphasis was initially placed on explaining dynamics at the global level and less attention was paid to understanding local forces. However, in recent years, renewed and focused attention has been paid to the local level, particularly the trend toward the response of locales to global forces. It is no longer accurate to describe this trend as a product of history; more accurate is an explanation that emphasizes the fluid character of interdependencies and movement of ideas and norms across various levels of analysis.

With regard to the climate change issue, recent state and local responses are best understood in the context of overlapping issue arenas, namely the energy security and

environmental arenas, and in the context of federal inaction. While in the late 1980s a “convergence of research and steamy summers thrust the matter of climate change onto the national agenda” (Brookings Review 2002), the convergence today is energy security and the environment. The other major force contributing to the surge in state and local climate change responses is federal inaction. The scenario unfolds as follows: the primary energy source in the US is fossil fuels. The US is heavily dependent on foreign sources of oil, particularly sources in the Middle East including Saudi Arabia. Climate change no longer in serious dispute, and the fact that the burning of fossil fuels is contributing to global warming is no secret or mistruth either. Many citizens believe global warming is having an impact on our local weather and ecosystems, that we should not continue to rely on fossil fuels as our energy source and dependency on foreign oil is dangerous. A recent Time/ABC News Poll revealed that 70% of Americans want the government to do more to address global warming. 49% of Americans consider global warming extremely or very important to them personally (as cited in Symons 2007).

So, rather suddenly, we find a convergence of forces leading actors to seek solutions at the same time that we find the federal government stalling and enduring significant pressure from the legislative and judicial branches of government. To be certain, the federal legislative pressure is coming from the House and Senate, but it’s seemingly delayed and directly from the pressure of the constituents within states. Still, federal action is moving again, for the first time in many years. Senate legislation introduced in January 2007 by the top Democrat and Republican on the Senate’s Foreign Relations Committee, committee chair and Democrat Joseph Biden and Republican Richard Lugar called for the administration to take action: “The science is clear, and the physical consequences of global warming are obvious in shrinking polar ice caps, retreating glaciers, stronger storms and changing rainfall patterns” (Biden quoted in Associate Press 2007). The House Appropriations Committee recently voted a resolution through the committee that asserts that the buildup of GHGs poses a “substantial risk”, but it’s not at all clear if the full House of Representative will follow the lead. For the past five years, the House has not seriously addressed but it has passed much legislation supporting the Bush-Cheney energy plan. The current administration’s energy plan will actually exacerbate the problem: “According to a forecast from the Department of Energy that

examines the effects of this new energy policy, U.S. emissions of global warming pollution from oil, coal and natural gas are now expected to increase 13 percent over the next decade. This increase will add to pollution rates that are already far too high, feeding the buildup of heat-trapping gases in the atmosphere and accelerating global warming.” (Symons, 2007). These trends at the federal level have pushed the issue into other political arenas. The less politically-charged arenas and more effective approaches to address these linked problems of energy, security and the environment are climate change responses beyond the federal level.

The most significant action taken to date in the US on the climate change issue has been at the state and local levels, and this is for a good reason. First, since most energy decisions are made at the state and local levels, states federal action. Furthermore, states in a competitive environment see the benefits of moving fast to spur new technologies, processes and practices. The structure of the US federal system purposefully establishes a competitive environment and provides states with significant autonomy and authority to make primary decisions. As energy, security and environmental concerns increase, states see the possibility to make a difference and impact a problem becoming more immediate to them every day. Many states in the US federal system have economies equivalent in size to those of large countries. For example, since California and New York combined are the 4th largest economy in the world, action taken by these states will have a significant impact on the problem and so the momentum to address the problem

In addition, state action is significant for national action in the US. This is building momentum for pressure to take federal action. State initiatives invite and encourage federal leadership. By moving ahead on solutions states can show that they are capable of achieving national goals that uphold international commitments. States moving forward to take action are devising a variety of strategies all of which correspond to the mandates of the primary international agreement, the Kyoto Protocol. 10 states in the Northeast have agreed to cap on CO₂ emissions from power plants. In the Northwest, Oregon and Washington agreed to limit global warming pollution from new power plants. California is the first state to take the bold move to limit emissions from automobiles. While 6 states passed legislation aimed at preventing any mandates to

control greenhouse gas emissions, most others are moving in the direction of adopting new legislation and establishing community-based projects and processes for addressing climate change. This trend reflects the convergence of growing concern about global warming, energy dependency and local air pollution. At the time when scientific consensus was reached on a contributor to global warming (GHG emissions), the US found itself highly dependent on foreign sources of oil, and still concerned about air quality in big cities. In addition, almost overnight the “environment” became a pet issue of many groups who are in opposition to one another on most other issues. When the stars of oil dependence, global warming and smog lined up, the cries from below were heard from left to right, young to old, north to south. The oddest bedfellows emerged to support energy efficiency and sustainable development including several prominent leaders of the evangelical movement. The most significant pressure for policy response is at the state level.

“Throughout U.S. history, states have consistently led Congress toward a variety of national policy actions. States have provided political support, ground-tested policy designs, and served as a landing place for implementation programs mandated by federal law. In recent decades, many federal environmental laws gained momentum and were modeled after state and regional programs. Current state action on climate policy is an extension of this well-established paradigm of national policy development.” (Center for Climate Strategies 2007).

Several states stand out in this mix including California, Minnesota and New Hampshire. As interest in state level action has increased in recent years, it’s necessary to evaluate the actions taken by states in order to understand US response to climate change. As indicated in the quote above, US states have often spurred Congress to take national action. States serve as useful laboratories for testing policies and for assessing the economic costs of particular policy approaches. States can also calculate more efficiently and concretely the costs of taking no action. Each state faces unique circumstances and so the policies adopted will tend to coincide with particular needs and circumstances within each state. The next section provides a summary of the actions taken by these states with an emphasis on highlighting the connection of state policies to the international agreements.

California

“California has achieved the right balance, the goals they have established are reasonable enough to meet, and ambitious enough to spur innovation. This is a big deal and a beautiful example of leadership and bi-partisanship at work.” (Eileen Claussen, President, Pew Center on Global Climate Change).

“California is pursuing many actions related to various aspects of climate change and is building on these to fashion a comprehensive strategy. California will do more, leveraging its vast intellectual and economic resources, in preparing for foreseeable future impacts and on reducing greenhouse gases in the atmosphere. In so doing we will create jobs, export goods and train our talented workforce.” (California Climate Change Portal 2007).

In 2003 California’s Energy Commission’s Public Interest Energy Research (PIER) program created the California Climate Change Center to conduct research for the state of California. The priorities for PIER are monitoring, analysis and modeling of climate; analysis of option to reduce GHGs; assessment of physical impacts of adaptation strategies; analysis of the economic consequences of both climate change impacts and the economic impacts of actions to reduce emissions. By requiring economic analysis of both action and no action, PIER provides objective data for the state of California. California made an effort to bring the economic costs “home” and to reveal the costs and benefits to the state. Executive Order S-305, signed by Governor Schwarzenegger in June 2005, mandates the California Environmental Protection Agency (CalEPA) to prepare biennial reports on the impact of global warming on various sectors of the California economy. CalEPA turned to PIER and its Climate Center to prepare these reports, which are accessible to all actors through the California Climate Change Portal (Climate Change Portal).

PIER has funded research in five categories. The research informs decisionmakers of the potential impacts of climate change areas in the following ways. First, climate monitoring, analysis and modeling provides a historical context of present and past conditions in California in an effort to present the likelihood and severity of changes to weather and climate in California including average temperature, precipitation, extreme

heat days and sea levels. Secondly, it improves the GHG inventory methods in an effort to enable California to more accurately track GHG trends. Third, studies weigh the costs and benefits of available options to reduce GHGs in an effort to maximize public and private investment. Fourth, studies will identify potential impacts of adaptation strategies and focuses primarily on ecological resources, water resources and human health. Finally, the studies, provide in-depth economic analysis to allow California to calculate the costs of climate change and the cost of various policy responses (California Climate Change Portal 2007). The members of the advisory committee also hold regular open meetings to inform stakeholders and the public of the committee's progress and research findings.

California stands at the forefront of states taking action to address climate change. Governor Schwarzenegger signed the Global Warming Solutions Act AB 32 on September 27, 2006. The legislation caps the state's greenhouse gas emissions at 1990 levels by 2020, and is the first enforceable state-wide program in the US to cap all greenhouse gas emissions from major industries and it includes penalties for non-compliance. The impassioned Governor recently stated: "This is our race to the moon. And like that race, this too would be 'one giant leap for mankind.' This is the challenge of our generation, and we will meet it with innovation, technology and with a commitment that matches the greatest pioneers in our history. This is what California is all about." (Office of the Governor 2007). The legislation corresponds to mandates established in the Kyoto Protocol, particularly the adoption of market-based compliance mechanisms including a cap and trade system, and an allowance for a one-year extension of the targets under special circumstances, just as we find for developing states in the Kyoto Protocol. Furthermore, a state board was established to monitor and enforce compliance with the program similar to the found in the international treaty.

California senses an opportunity to become a leader in a competitive industry, Not only do we find the first national legislation to limit the specific emissions from automobiles, but we also see great commitment toward building energy efficient alternatives that will provide the energy sources to replace fossil fuels and clean our air. The energy economy of the future will be based on clean energy sources and efficiency and those states that are first movers stand to make the most economic gain. Furthermore,

these states are exposing the security risks of oil dependency and the way in which business as usual practices contribute to fouling the air in local communities.

Minnesota

“Our global climate is warming, at least in part due to the energy sources we use [...] We cannot solve it be ourselves, but we need to lead and do our part. We also need to push for an effective national and international effort” Governor Pawlenty 2007.

On December 12, 2006 the Governor of Minnesota, Tim Pawlenty, presented the state’s Next Generation Energy Initiative, an initiative which builds on Minnesota’s progressive energy policies that include more renewable energy, energy savings and the reduction of carbon emissions. A primary element of the new initiative is a plan to reduce the state’s GHG emissions. The Governor also asked for assistance from the Center for Climate Strategies and the establishment of a Minnesota Climate Mitigation Action Plan and the Minnesota Climate Change Advisory Group MCCAG (Minnesota Climate Change Advisory Group 2007). This executive action bespeaks the leadership’s concern to address climate change early and in a meaningful way.

MCCAG is comprised of 50 individuals representing various sectors within Minnesota. Members include a broad range of stakeholders from environmental groups, industry, transportation, agriculture and local and tribal governments. MCCAG is charged with developing policy recommendations to reduce or sequester GHG emissions and to promote energy efficient technologies and clean and renewable energy sources aimed at enhancing economic growth in Minnesota. The MCCAG will strengthen the institutional memory capacity and provide long-term recommendations for state action. State action is very important to global progress to address climate change; 34 of 75 of the largest GHG emitters in the world are US states. Minnesota seeks to establish policies, action plans and committees that may serve as models for other states to follow. States are seen as the laboratories for testing policies to combat global warming and Minnesota prides itself on the establishment of state-level policy laboratories.

At the beginning of 2007, lawmakers in Minnesota introduced various pieces of legislation aimed at reducing carbon dioxide emissions. One measure calls for reducing carbon emissions by 15% below 2005 emission levels by 2015. Another called for the

state to generate 25% of its energy from renewable sources such as solar and wind by 2020. On January 30, 2007, state legislators attended a joint committee session on global warming. “The warnings of melting polar ice caps, the threats to Minnesota's moose population and the habitat the animal lives in are not new. But the presenters hoped the testimony would reinforce those who worry about global warming and would convince skeptics that it's occurring.” (Scheck 2007). Legislators used the meeting to highlight legislation to be introduced in coming months. Representative Hortman introduced legislation to require a 30% reduction of GHG emissions from cars and trucks by 2030. Minnesota lawmakers are encouraged not only by the fact that Democrats now control the state's upper and lower houses, but also by the bipartisan support of a variety of stakeholders. In addition, Governor Pawlenty has focused attention on more consumption of renewable energy and greater efforts at conservation. This is not to say that all Minnesotans support these progressive policies to address climate change. In fact, “one group, called Minnesotans for Global Warming, wore T-shirts saying they wanted to turn their snow shovels into lawn chairs. The spokesman, who would not provide his real name, said he doesn't think global warming is occurring since the temperature outside the Capitol was below 10 degrees.” (Scheck 2007).

Minnesota stands out as a result of its efforts to establish policies aimed at addressing the climate change problem. The Governor's executive decisions to establish a climate change action plan and a climate change advisory group coupled with progressive legislation introduced by lawmakers in the state's legislature explain why Minnesota is leading the way and serving as a role model and laboratory for other states to emulate.

New Hampshire

New Hampshire serves as an excellent case for examining the forces impacting the development of policy responding to climate change concerns. In New Hampshire, at local town hall meetings, not only is there discussion about common local concerns such as school boards and budgets, but residents are also considering addressing a global issue and are considering a state referendum on climate change (Zesima: 2007). 180 of 234 incorporated cities and towns are voting on a resolution demanding the federal

government address climate and develop “innovative energy technologies” and for state residents to local solution and form “energy committees”. This action is not just a result of New Hampshire’s occasional identity as an environmentally friendly state, because in fact New Hampshire is middle of the road and leaning toward conservative. Rather, according to the local spokesman for the Sierra Club’s New Hampshire chapter, Kurt Ehrenberg “one of the driving forcers here is the lack of federal leadership on the issue, It s forced people to find a solution at the local level” (ibid). State solutions find bipartisan support. To be certain, New Hampshire’s Carbon Coalition spearheaded this campaign, a coalition led by a former Democratic Party leader and Republican state senator.

The organizers aim to encourage presidential candidates to address climate change during the New Hampshire primaries. It has been a long time since New Hampshire residents asked the federal government to take action. In 1983 a coalition was formed to pressure the hand of the federal government to address acid rain. While it is indeed a fact that New Hampshire contributes to and suffers from the ill consequence of industrial production such as acid rain, it is also the case that New Hampshire is impacted by global warming. Professor of climatology and geography at the University of New Hampshire, David P. Brown asserts, “every reputable climate model projects a continued warming for New England [...] and I expect that trend to be mirrored in New Hampshire” (Zesima, 2007). New Hampshire’s ski industry also has a vested interest in climate change, “we like to get snow” (ibid, Brown).

New Hampshire’s governor, John Lynch, signed into law House Bill 873, the Renewable Energy Act, establishing an energy portfolio stand for the state. The bill mandates that by 2025 25% of the states electricity is to come from renewable sources and anticipates the creation of new jobs in the alternative energy sector. New Hampshire is taking a different approach than other states. For example, Colorado and Washington passed renewable energy standards by ballot initiative and Texas has held hearing on the issues. New Hampshire stands out as the first state to use the town meeting approach. This is truly a bottom up approach, with the old adage “think global, act local” fully embraced. However, this approach is limited because of the fact that it is not widely available across all states in the federal system. The state of New Hampshire may not be the rule, but rather an exception.

Conclusion

There is plenty of reason for optimism and for getting excited about state level action. Just a few weeks ago, more than 30 states signed the Climate Registry, which is a collaboration aimed at developing a consistent reporting system. The Registry aims to track, verify and publicly report GHG emissions and to provide a transparent reporting system between states. A mix of voluntary, market-based and regulatory GJG emissions is embraced in the registry. The current member states include: Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Vermont, Washington, Wisconsin and Wyoming. This collaboration is the largest national effort to date to track greenhouse gas emissions.

Sustainable development is indeed a challenge and getting to a stage of very strong sustainability requires the development of policies, actions and new ways of thinking across all important sectors of society. According to O’Riordan, the roadmap for sustainable transition requires countries to move beyond weak sustainability which only pays lip service to policy integration, requires only minor tinkering with economic instruments, pays little attention to raising public awareness and spins wheels through the development of weak corporatist groups and various consultation exercises. Strong sustainability occurs when international conventions are meaningful and binding, when national responsibilities are clearly articulated, when sustainable accounting is used at both the national and international levels, when alternative technological innovations are fostered and encouraged and when new community initiatives become the norm (O’Riordan 1996). O’Riordan’s typology defines policy, economy, society and discourse as arenas for the development and articulation of factors to focus on when assessing sustainable development. While the debate about how to measure sustainable development continues O’Riordan’s model provides a clear set of criteria for measuring progress. In assessing three state’s responses to climate change action and inaction, we find positive development in all four variable categories (policy, economy, society and

discourse). Table 1 shows a possible map to the sustainable transition, as articulated by O’Riordan.

The moral of the story is that federal inaction often spurs state-level and local action that may prove more meaningful and lasting than national policies. There is growing interest in state-level responses and many states have stakeholder processes similar to those in California and Minnesota. The climate action policies server multiple aims such as reducing air pollution and traffic congestion, preserving land, reducing waste and improving management, securing reliable and renewable energy sources, in addition to reducing GHG emissions. States also benefit from collaboration through information sharing and conferences aimed at brining governors and mayors from around the country (and world) to discuss state and local efforts to address climate change.

Within the context of sustainable development, discourse in town hall meetings, policies developed by cities, and new curriculum introduced at the primary and secondary school levels are concrete, impacting and measurable. While we may lament the international treaty seeking to address the issue, or the inaction of the federal government seemingly ignoring the issue, there is plenty of reason for hope when we look to the level of states in the federal structure and the local communities within. The collaboration among mayors and the strong agreements between states illustrates how norms about climate change are traveling and spreading across political boundaries. And these norms and policy preferences coincide with the norms articulated in the primary international agreement, the Kyoto Protocol.

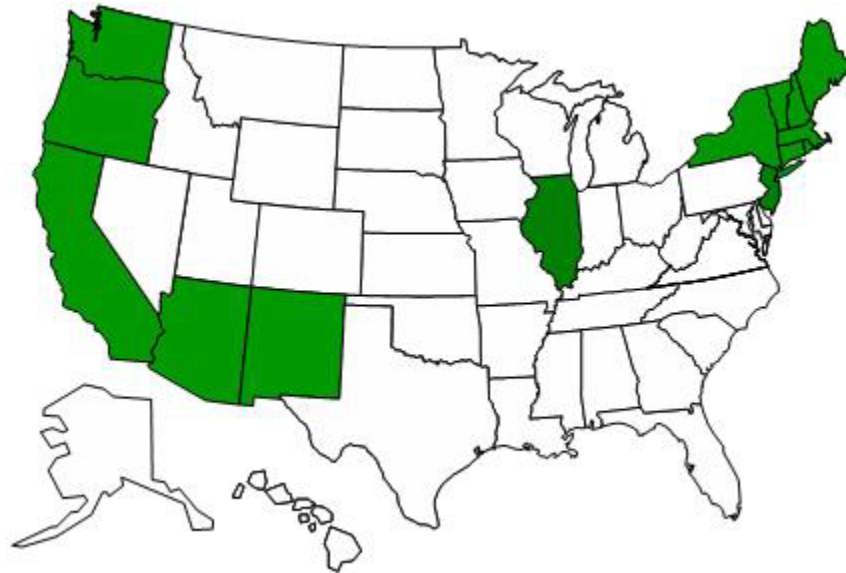
Whether it’s the citizens concerned about real and potential impacts of global warming, or the politicians concerned about their constituencies, or the spread and flows of goods, bads and ideas moving faster than ever before, we find the problem, the discussions and the meaningful policies much closer to home. GHG targets, climate action plans, climate change advisory boards and emission standards are all part of this mix. The renewed interest in state and local action is warranted because this is the place where real and meaningful action is currently taken in the US.

Table 1. STAGES OF SUSTAINABLE DEVELOPMENT TRANSITION

	POLICY	ECONOMY	SOCIETY	DISCOURSE
STAGE 1 = very weak sustainability	Lip service to policy integration	Minor tinkering with economic instruments	Dim awareness and little media coverage	Corporatist discussion groups; consultation exercises
STAGE 2 = weak sustainability	Formal policy integration and deliverable targets	Substantial restructuring of microeconomic incentives	Wider public education for future visions	Round-tables; stakeholder groups; parliamentary surveillance
STAGE 3= Strong sustainability	Binding policy integration and strong international agreements	Full valuations of the cost of living; green accounts alongside national accounts	Curriculum integration; local initiatives as part of community growth	Community involvement; twinning of initiatives in the developed and developing world
STAGE 4= Very strong sustainability	Strong international conventions; national duties of care; statutory and cultural support	Formal shift from sustainable economic accounting both nationally and internationally	Comprehensive cultural shift coupled to technological innovation and new community structures	Community-led initiatives become the norm

Source: O'Riordan (1996).

Table 2. States with Greenhouse Gas Emissions Targets



<p>AZ: 2000 levels by 2020; 50% below 2000 levels by 2040</p> <p>CA: 2000 levels by 2010; 1990 levels by 2020; 80% below 1990 levels by 2050</p> <p>CT: 1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term</p> <p>IL: 1990 levels by 2020; 60% below 1990 levels by 2050</p> <p>MA: 1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 1990 levels in the long term</p> <p>ME: 1990 levels by 2010; 10% below 1990 levels by 2020; 75-80% below 2003 levels in the long term</p> <p>NH: 1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term</p> <p>NJ: 1990 levels by 2020; 80% below 2006 levels by 2050</p> <p>NM: 2000 levels by 2012; 10% below 2000 levels by 2020; 75% below 2000 levels by 2050</p> <p>NY: 5% below 1990 levels by 2010; 10% below 1990 levels by 2020</p> <p>OR: Stabilize by 2010; 10% below 1990 levels by 2020; 75% below 1990 levels by 2050</p> <p>RI: 1990 levels by 2010; 10% below 1990 levels by 2020</p> <p>VT: 1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term</p> <p>WA: 1990 levels by 2020; 25% below 1990 levels by 2035; 50% below 1990 levels by 2050</p>

Source: Pew Center on Climate Change

http://www.pewclimate.org/what_s_being_done/in_the_states/emissionstargets_map.cfm

Table 3. States with Climate Action Plans



“These states have completed comprehensive Climate Action Plans, which detail steps that the states can take to reduce their contribution to climate change. The process of developing a climate action plan can identify cost-effective opportunities to reduce GHG emissions that are relevant to the state. The individual characteristics of each state’s economy, resource base, and political structure provide different opportunities for dealing with climate change. However, without targets for emissions reductions, incentives for cleaner technologies, or other clear policies, climate action plans will not achieve real reductions in GHG emissions.”

Source: Pew Initiative on Climate Change. September 2006.

http://www.pewclimate.org/what_s_being_done/in_the_states/action_plan_map.cfm

Table 4. States Poised to Adopt California Vehicle GHG Standards

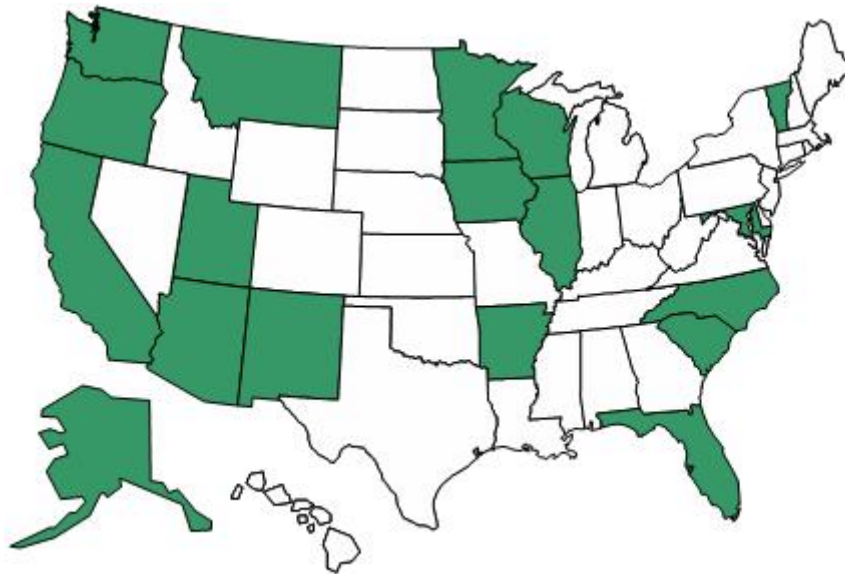


“In 2002, California passed legislation creating vehicle emissions standards that will require that tailpipe greenhouse gas emissions from new vehicles be reduced by 22 percent by the 2012 model year and 30 percent by the 2016 model year. The California Air Resources Board (ARB) was directed to adopt regulations that would achieve the "maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles." The cost-effective reduction measures identified by the staff include discrete variable valve lift, dual cam phasing, turbocharging with engine downsizing, automated manual transmissions, and camless valve actuation. The ARB expects that the regulations will add around \$1000 to the cost of a new car in 2014 but that the increased up-front cost will be more than offset by decreased operating costs over the life of the vehicle. The regulations will apply only to model years 2009 and later.”

Source: Pew Initiative on Climate Change.

http://www.pewclimate.org/what_s_being_done/in_the_states/vehicle_ghg_standard.cfm

Table 5. States with Active Climate Legislative Commissions and Executive Branch Advisory Groups



AK: *Climate Impact Assessment Commission* established in May 2006 by the Legislature to assess the impacts and costs of climate change to Alaska and develop recommendations for preventative measures that can be implemented by Alaskan communities and governments.

AR: *Governor's Commission on Global Warming* established in April 2007 with Governor Mike Beebe's signing of HB2460. The commission will study the potential impacts of climate change on the state's environment and economy, and then recommend a global warming pollutant reduction goal and strategies for achieving it. Commission members will include representatives from the state government as well as many groups including scientific, energy, forestry, agricultural, and environmental organizations, among others. The Commission must report its findings by November 1, 2008.

AZ: *Climate Change Advisory Group* established in February 2005 by executive order to produce an inventory of Arizona's greenhouse gas emissions and develop recommendations to reduce Arizona's greenhouse gas emissions.

CA: *Climate Change Advisory Committee* established in 2004 by the California Energy Commission to provide advice and recommendations on a comprehensive equitable and cost-effective climate change strategy for California.

Climate Action Team established in June 2005 by executive order to implement global warming emission reduction programs and report on the progress made toward meeting the state GHG emission reduction targets.

FL: *Energy Commission* established in June 2006 by the Legislature to recommend steps and a schedule for the development of a state climate action plan through a public involvement process to reduce GHG emissions.

IA: *Climate Change Advisory Council* established April 2007 and to be composed of a range of Governor-appointed stakeholders, as well as members of the legislature. The council is charged with developing a range of scenarios for reductions of statewide greenhouse gas emissions, including the possibility of cutting emissions 50 percent by 2050, and recommending the best strategies for statewide emissions reductions. The council will submit its recommendations to the governor and the general assembly by January 1, 2008.

IL: *Climate Change Advisory Group* created in October 2006 by Governor Rod Blagojevich to consider strategies and make recommendations on how the state can best reduce its greenhouse gas emissions. The Advisory Group, which includes scientists and representatives from business, industry, and the environmental community, must present its findings and recommendations to the Governor by June 30, 2007.

MD: *Climate Change Commission* established in April 2007 by executive order and charged with creating a state action plan to address climate change. The Commission will assess the possible impacts of climate change; calculate Maryland's contribution to the climate change problem; work together with various state agencies, energy providers, business leaders and other groups to develop a greenhouse gas reduction

strategy; and develop a plan for reducing the state's vulnerability to sea level rise and other effects of climate change.

MN: *Minnesota Climate Change Advisory Group* appointed in April 2007 by Governor Tim Pawlenty to develop a comprehensive set of state-level policy recommendations for reducing or sequestering greenhouse gas emissions and to identify opportunities to promote energy efficient technologies and clean, renewable energy resources that will enhance economic growth. The Advisory Group's final report is due to the Governor and legislature by February 1, 2008.

MT: *Climate Change Advisory Council* established in April 2006 by the Department of Environmental Quality, as requested by Governor Brian Schweitzer, to: recommend strategies to reduce and sequester greenhouse gas emissions, promote economic growth, and develop a Climate Change Action Plan by July 2007.

NC: *Legislative Commission on Global Climate Change* established in September 2005 by the Legislature to: address the threats posed by global warming; determine the costs and benefits of the various mitigation strategies adopted by state and national governments; assess the state's potential economic opportunities in emerging carbon markets; determine the desirability of a statewide greenhouse gas emission goal and make recommendations for an appropriate path forward.

NM: *Climate Change Action Council* established in June 2005 by executive order to review and provide recommendations to the Governor's office regarding climate change policy.

Climate Change Advisory Group established in June 2005 by executive order to present a report to the Climate Change Action Council by December 2006, which will include: proposals to achieve the state GHG emissions reduction targets and associated costs and benefits; an inventory of historical and forecasted GHG emissions in New Mexico and of existing and planned GHG emission reduction actions in the state; findings on initiatives to create meaningful regional and national policy to address climate change.

OR: *Climate Change Integration Group* appointed in June 2006 by the Governor to track the State's progress on greenhouse gas emission reductions, and explore new opportunities for research on the mitigation of, and adaptation to, climate change in Oregon and the Pacific Northwest.

SC: *Governor's Climate, Energy, and Commerce Advisory Committee* established February 2007 by executive order. The committee is charged with considering the impacts of climate change on South Carolina, potential economic opportunities involved, and the costs, benefits, and feasibility of various policy strategies for addressing climate change. The committee's final action plan and policy recommendations are due to the Governor by March 2008.

UT: *Governor's Blue Ribbon Advisory Council on Climate Change* established August 2006 to assess the policy options available to Utah for addressing climate change. The council will be made up of representatives from government, industry, environmental, and community groups and is charged with considering the science, economics, and policy around climate change. The council is to report its findings and recommendations to the governor in the Fall of 2007.

VT: *Commission on Climate Change* established in December 2005 by executive order to: examine the impacts of climate change in Vermont; produce an inventory of existing and planned actions that contribute to GHG emissions in the state; educate the public about climate change; develop, by September 2007, a Climate Action Plan including recommendations to reduce GHG emissions in Vermont.

WA: *Washington Climate Change Challenge* initiated February 2007 by executive order and directing the Washington departments of Ecology and Community, Trade and Economic Development to lead a task force composed of representatives from business, community, and environmental groups in developing strategies for how Washington can achieve its climate goals.

WI: *Task Force on Global Warming* created in April 2007 by executive order. The Task Force will investigate the potential economic and environmental impacts of climate change on Wisconsin and recommend possible solutions and strategies for greenhouse gas emissions reductions in the state. It will also work with other government agencies to derive an estimate of current statewide emissions. The Task Force will include members from business, industry, government, energy, and environmental organizations.

Source: Pew Center on Climate Change

http://www.pewclimate.org/what_s_being_done/in_the_states/climatecomissions.cfm

Table 6. State Legislation from Around the Country.

State Climate Change Commissions: Executive or legislative commissions examine the possible consequences of climate change for a state and the costs and benefits associated with addressing them, and develop recommendations for appropriate policy.

- [Alaska Climate Impact Assessment Commission](#) (pdf)
 - [Alaska HCR30 Fact Sheet](#)
- [Governor's Commission on Global Warming](#) (pdf)
- [North Carolina Legislative Commission on Global Climate Change](#) (pdf)

Climate Action Plans: Often building on the work of their commissions, states design climate action plans tailored to their specific circumstances, seeking the most effective way to address climate change.

- [Connecticut Climate Action Plan](#) (pdf)
- [Maine Climate Action Plan](#)

Greenhouse Gas Reporting: Several states have begun implementing either mandatory or voluntary reporting of greenhouse gas emissions from major sources. In addition to the examples below, the Connecticut Climate Action Plan (see link above) establishes mandatory greenhouse gas reporting, described in section four of the bill.

- [California Climate Action Registry](#)
 - [California SB 1771](#) (pdf)
 - [California SB 527](#) (pdf)
- [Wisconsin Legislation](#)
 - [Wisconsin Mandatory Greenhouse Gas Reporting](#) (pdf)
 - [Wisconsin Voluntary Greenhouse Gas Registry](#) (pdf)
- [West Virginia Inventory and Reporting](#) (pdf)

Economy-Wide Greenhouse Gas Reductions: These establish an economy-wide emissions cap for the whole state and implement a number of policies to achieve it.

- [California Global Warming Solutions Act of 2006](#) (pdf)
 - [California AB 32 Fact Sheet](#) (pdf)

Greenhouse Gas Performance Standards for Electric Power: These requirements ensure that all electricity used in a state certain greenhouse gas emissions standards.

- [California SB 1368](#) (pdf)
 - [SB 1368 Fact Sheet](#) (pdf)
- [Minnesota Out-of-State Carbon Sequestration](#)

Greenhouse Gas Performance Standards for Vehicles: By law states have the option of either following federal emissions standards for cars and light trucks or following California's standards. Twelve states, including Arizona, Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington have or are in the process of adopting California's standards. Maryland and Texas, so far, will be considering legislation in 2007.

- [California AB 1493](#) (pdf)
- [New Jersey Vehicle Emissions Standards Legislation](#) (pdf)
- [Washington Vehicle Emissions Standards Legislation](#) (pdf)

Source: National Caucus of Environmental Legislators. For more information, visit the [National Caucus of Environmental Legislators](#) website.

Table 7. AB 32, the California Global Warming Solutions Act of 2006,

Specifically requires CARB to:

- Establish a statewide greenhouse gas emissions cap for 2020, based on 1990 emissions by January 1, 2008.
- Adopt mandatory reporting rules for significant sources of greenhouse gases by January 1, 2009.
- Adopt a plan by January 1, 2009 indicating how emission reductions will be achieved from significant greenhouse gas sources via regulations, market mechanisms and other actions.
- Adopt regulations by January 1, 2011 to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas, including provisions for using both market mechanisms and alternative compliance mechanisms.
- Convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee to advise CARB.
- Ensure public notice and opportunity for comment for all CARB actions.
- Prior to imposing any mandates or authorizing market mechanisms, CARB must evaluate several factors, including but not limited to impacts on California's economy, the environment and public health; equity between regulated entities; electricity reliability, conformance with other environmental laws and ensure that the rules do not disproportionately impact low-income communities.

Because of California's massive and growing economy, the state is the 12th largest emitter of carbon in the world despite leading the nation in energy efficiency standards and lead role in protecting its environment.”

Source: Office of the Governor, California

<http://gov.ca.gov/index.php?/text/press-release/4111/> (visited 5/5/07)

Table 8. California Climate Change Policy & Programs

“California is pursuing many actions related to various aspects of climate change and is building on these to fashion a comprehensive strategy. California will do more, leveraging its vast intellectual and economic resources, in preparing for foreseeable future impacts and on reducing greenhouse gases in the atmosphere. In so doing we will create jobs, export goods and train our talented workforce. Responding to climate change will not be an additional burden but will, in fact, promote economic development, ensure energy and economic security, and improve public health and safety. ”

	The Climate Action Team coordinates activities among California government agencies.		A voluntary greenhouse gas emission registry to record California companies greenhouse gas emissions inventory.
	The Advisory Committee makes recommendations on a wide range of topics associated with climate change impacts on California		California Air Resources Board's motor vehicle greenhouse gas emissions standards.
	Plan to ensure adequate, reliable and reasonably-priced electricity and natural gas supplies.		California's Integrated Energy Policy Reports.
	West Coast Governors' regional greenhouse gas reduction initiative.		California greenhouse gas emissions inventory for 1990 to 2002.
	Market Advisory Committee		

Source: California Climate Change Portal

<http://climatechange.ca.gov/policies/index.html> (visited 5/5/07)

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