Coordinated Regionalism:
A Potential Answer to America's Climate Change Policy Challenge

A Look at the Emergence of Regional Cap and Trade Policies in the United States and their Contribution to a Workable National Response to Greenhouse Gas Emissions

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Abstract

Global Climate Change is an important environmental issue facing the United States and the world, yet the United States has thus far failed to enact substantial national legislation to tackle its greenhouse gas emissions. In the absence of federal policy, some states have joined together to form regional cap and trade systems in an effort to inform the national debate, prompt federal action, and begin emissions reductions. This project explores the economic, business, legal, political, logistical, and environmental facets of the three existing regional agreements in order to understand how they can provide a viable framework for an American emissions policy. Subnational cap and trade regimes allow policymakers to tailor each system to the specific circumstances associated with more manageable and homogeneous regions of the large and geographically variable terrain of the United States. Unfortunately, regional policies face problems associated with state-level electoral volatility and subsequent policy instability, while a one-size-fits-all national solution encounters staunch political opposition and daunting logistical hurdles. Consequently, a paradigm shift among policymakers is necessary in order to craft a workable solution.

This project proposes the Coordinated Regionalism approach under which a national mandate to states would require specific emissions reductions while retaining the regional flexibility of implementation through subnational cap and trade regimes. This proposal takes advantage of the regional specificity of a decentralized approach, and it uses federal enforcement power to eliminate policy instability and ensure overall emissions reductions. Hence, Coordinated Regionalism emerges as an innovative cap and trade policy blueprint that overcomes the impediments of existing regional plans and promotes national climate change goals. Ultimately, deferring to the wisdom of states and regions allows for maximum environmental impact with minimum economic distress in a way that is more politically viable and regionally deferential than a national cap and trade regime.

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Introduction
A Nation Without a Plan

As anthropogenic greenhouse gasses threaten to warm the planet, the United States finds itself in the precarious position of having no comprehensive plan for national emissions reductions. Climate change poses grave risks to coastal cities, endangered species, and unique ecosystems across the United States. However, climate change mitigation is not only an environmental issue; it is also one that affects national security, international public health, foreign relations, and global justice. Despite the importance of climate change and the dangers associated with its impacts, a robust American policy response has not been forthcoming. As the national Congress has failed to enact climate change legislation, environmental advocates and their allies have turned their sights to the country's statehouses where regional cap and trade programs have emerged. Climate change mitigation is one of the most important policy challenges for generations, and finding a workable way forward will involve looking beyond the halls of Congress and into the realm of the states.

The United States needs climate change mitigation legislation in order to fulfill its responsibilities to the environment, to its citizens, and to the global community. However, thanks in part to a treacherous political landscape, only with a well thought out plan of action can a responsible, effective policy be launched in the United States. Significant debate remains about the best approach to national action, and the political and economic feasibility of a nationwide policy remains uncertain. The lack of any recognizable American climate change law raises the question of the ability of a nation with such geographic and political variation to enact a comprehensive solution. Perhaps the ultimate solution to a national climate change mitigation policy lies outside the scope of a nationwide carbon tax or cap and trade system and

instead rests in the hands of subnational governments. This project will attempt to answer this question by analyzing the strengths and weaknesses of a regional approach to climate change mitigation in the United States and by presenting a policy proposal that is economically viable, politically feasible, and environmentally effective.[i]

The federal elections of 2008 resulted in sweeping Democratic majorities in the House of Representatives and the Senate, making the 111th Congress likely the most favorable atmosphere for comprehensive climate change legislation in history. However, climate change legislation was blocked by the sixty vote threshold needed to break the Senate filibuster. Despite the empowered Democratic majority, the concerns of individual senators about their home states proved to be an insurmountable obstacle. This is perhaps because no single bill can accommodate the unique and variable interests of all fifty states in a way that will not adversely affect certain regions. No one can argue against the fact that states such as West Virginia, Alaska, and New Mexico each face completely different challenges and contribute to American greenhouse gas emissions in vastly different ways. Consequently, each legislator knows what his or her region needs when it comes to economic protection and progress, but all of these combinations may not be able to exist under one energy and climate policy in a country as large as the United States.

In order to get legislators on board with climate change legislation, they must be convinced that their state as a whole will not be disproportionately affected in a negative manner under new laws and regulations. Each state or geographic region's different capacities for

[i] NOTE: This report takes the approach of addressing climate change with a cap and trade model, only. There are certainly other policy mechanisms to reduce greenhouse gas emissions, including a carbon tax or command and control regulation. However, for the purposes of this project, cap and trade will be viewed as the optimal and most politically viable choice. Therefore, all efforts will be placed on finding a workable *cap and trade* solution to America's climate change responsibilities.

renewable energy, distinctive existing infrastructure, variable sources of currently utilized energy sources, and assorted resources for fossil fuel production make a comprehensive, nationwide plan potentially unattainable. The asymmetrical economic consequences of proposed legislation on different regions have proven unpalatable to a national cohort of legislators, regardless of partisan affiliation. Any national plan would have to be so vague and watered down in order to accommodate all of these variations that it would be rendered essentially useless and unable to provide the sizable reductions necessary for the United States to take on its global responsibility to mitigate climate change. At the end of the day, regional politics has, thus far, trumped the environment.

Despite these challenges, there was no shortage of attempts during 2009 and 2010 to tackle climate change while the opportunity was perceived to be politically within reach. The House of Representatives passed an extensive bill (The American Energy and Security Act) to cap national greenhouse gas emissions and institute an emissions permit trading program. However, the Senate was unable to muster the votes to advance any such legislation along the process. Due to the fact that each senator represents such a large and variable geographic area, partisan affiliation alone was not enough to convince many senators whose states would struggle to adjust to a carbon-capped economy. Senators Kerry, Lieberman, and Graham's substantive attempt to institute a cap and trade program under their American Power Act provides prime examples of the type of conflicts of interest facing many moderate, swing-vote senators who have proven to be remarkably loyal to their home constituencies over their parties. Ryan Lizza's article cataloguing the demise of the American Power Act in the 111th Senate aptly paints this dilemma:

> Lieberman knew that the issue was almost as much regional as ideological. When he went to lobby Evan Bayh, of Indiana, Bayh held up a map of the United States showing, in varying shades of red, the percentage of electricity that each state derived from burning coal, the main source of greenhouse-gas emissions in the United States. The more coal used, the redder the state and the more it would be affected by a cap on carbon. The Northeast, the West Coast, and the upper Northwest of the country were pale. But the broad middle of the country—Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, Illinois—was crimson. (Indiana, for example, derives ninety-four per cent of its electricity from coal). "Every time Senator Lieberman would open his mouth, Bayh would show him the map," a Lieberman aide said.[1]

Failure during these prime years for climate change legislation and such clear trepidation on the part of many lawmakers makes one wonder if a substantive nationwide policy will remain unattainable. Instead, regional deference and geographically tailored policies may be the only feasible option for a national approach to reduce greenhouse gas emissions.

In the absence of federal climate change legislation, some state governments have begun to take responsibility for reducing their emissions. Across the United States, three regional policy approaches to cap greenhouse gas emissions have emerged that take into account the unique characteristics and limitations of their respective geographic areas. These plans cover three distinctive geographic regions of the nation including: the Regional Greenhouse Gas Initiative (RGGI) in the Northeast, the Midwestern Greenhouse Gas Reduction Accord (MGGRA) across the Rust Belt, and the Western Climate Initiative (WCI) which covers an agglomeration of states west of the Great Plains. These regions are more comparable in size to other industrialized nations, and this approach allows geographic and political variation to be taken into account in order to minimize economic hardship and tackle issues specific to each part of the country. Perhaps an approach with the potential for success at a national level is to allow states to enter into congressionally sanctioned interstate treaties or engage in policies similar to RGGI in an attempt to combat climate change as a series of separate and distinct regions.

As House Speaker Tip O'Neill said of American politics, "all politics is local".[2] This may be true for issues with national implications alone, but for policy puzzles such as global climate change, perhaps we have to expand this truism to say "all politics is regional." What are the demands and requirements of each geographic region when it comes to environmental and energy issues? How will changes negatively impact business in certain areas of the country, spur growth in others, or leave some feeling left out of the benefits? These are the questions we must answer if we want a passable national climate change policy. Today's regional agreements can shed light on these questions and reveal a way forward for American climate change mitigation. In fact, RGGI, MGGRA, and WCI may actually be the building blocks for a cobbled, mosaic-like multi-policy approach to address America's contributions to global climate change.

The question remains: is the adoption of a series of regional cap and trade schemes, which allow specific tailoring for the vast geographic, political, and economic variability of the country, the only hope for a national plan to mitigate climate change? If so, what could such a policy look like, and how could some sort of onus be placed on all states to take on a *substantial* commitment to reducing the greenhouse gas emissions from their portion of the country? If not, what can be learned from the design of these regional policies that may illuminate the path toward overcoming the seeming political impossibility of enacting comprehensive climate change legislation at the national level? The answers to these questions lie in understanding the political negotiations, economic considerations, and policy implications associated with all three regional plans in order to best comprehend the requirements for a national policy *or* the political necessity of a decentralized approach.

Ultimately, this project will provide evidence that the structure of regionally envisioned and administered emissions reduction policies is unstable in its current form as a consequence of

electoral political changes and fluctuating economic concerns. This inherent lack of stability makes the current subnational mosaic of policy approaches untenable to combat climate change in a meaningful way at the national level. However, a federal emissions reduction mandate that allows states to find their own path to reductions could provide the accountability necessary to allow a series of regional pacts to take effect. This approach would allow the tailoring of specific plans to geographic and political realities across this massive country. With federally mandated emissions reductions *and* state and regional flexibility, a piecemeal approach may be the most feasible way of structuring a comprehensive, national plan to mitigate American contributions to global climate change. The proceeding chapters will identify what problems must be solved, how current plans are approaching them, and what steps can be taken as the country seeks to find a workable greenhouse gas reduction policy. In the end, the benefits and wisdom behind a regional approach to climate change necessitate a paradigm shift among policymakers in which state and regional cap and trade schemes become the foundation for greenhouse gas reductions.

This project is organized as follows. Chapter 1 lays out the basic information about the conundrums facing policymakers regarding a national climate change policy including the possible reasons for the lack of federal legislative action and the resultant emergence of state and regional initiatives. Chapter 2 describes overarching policy design and implementation concerns facing regional plans and offers considerations for possible solutions prior to the close analysis of current policies. Chapters 3, 4, and 5 take a detailed look at the mechanisms, politics, economics, and regional specificity associated with RGGI, WCI, and MGGRA, respectively. Chapter 6 reviews the lessons learned in the preceding chapters and begins to draw conclusions about how regionalism can inform the national policymaking process. Chapter 7 proposes a

policy solution which highlights and advances the benefits of a regional approach to cap and trade while addressing the need for political enforcement. The concluding chapter expresses why the current direction of a national emissions reduction policy is unlikely to bear fruit and encourages a shift toward a decentralized approach to climate change mitigation.

Endnotes

[1] Lizza, Ryan. "As the World Burns: How the Senate and the White House missed their best chance to deal with climate change." *The New Yorker*. 11 October 2010. 13 October 2010. <http://www.newyorker.com/reporting/2010/10/11/101011fa_fact_lizza?printable=true#ixzz11JV51osB>.

[2] O'Neill, Thomas P. and Gary Hymel. *All Politics is Local and Other Rules of the Game.* Holbrook, MA: Bob Adams, Inc., 1994. xvi.

Chapter 1

Big Problems, Smaller Solutions: States Take Action on Climate Change
(The Emergence of Regional Cap and Trade Programs)

The United States Congress has made several attempts to enact a national emissions reduction scheme. Republican Senator John McCain of Arizona is known for his efforts with Senator Joe Lieberman (I-CT) to pass a limited cap and trade program, Lieberman and Senator Warner (R-VA) made an attempt during the 110th Congress, and most recently the Waxman-Markey comprehensive climate change legislation known as ACES passed the House of Representatives in 2009 but ultimately died in the Senate. The Congress has not yet been able to surmount the difficult challenges associated with a federal cap and trade policy that covers the emissions of the entire country. Despite international commitments and calls for the United States (the world's biggest emitter at the turn of the twentieth-first century[1]) to rein in emissions, no plan has been palatable to enough national legislators to land on the Resolute Desk in the Oval Office.

National Obstacles

While some firebrands attribute the lack of Congressional action to so-called climate skepticism and others to the complicated bureaucracy associated with a cap and trade program, it seems entirely plausible that the source of inaction may lie, in part, with the uniqueness of the United States as a country. Massive in size and variable in geography, the United States faces especially difficult challenges when it comes to a fully operational climate change mitigation system. The sheer number of different interests represented in the halls of Congress provides innumerable stumbling blocks for any environmental and energy legislation, and the American

political system itself lends little assistance to easing tensions among regional adversaries. It is inarguable that any national climate change policy in the United States must be remarkably complex and must address issues that span a country with at least fifty different cultures, economies, and geographic profiles. The recent emergence of regional climate change mitigation policies may be due to three major obstacles to the federal government's ability to enact substantive climate legislation: the country's size, geographic variability, and political gridlock.

Size

Individuals and groups concerned about climate change can point to the successes of other industrialized nations, such as England, France, and Germany, in an effort to push the American Congress into action. While it is true that some nations which Americans consider "peers" have led the way on climate change legislation, the argument is not as straightforward as it seems. Excluding the numerous factors such as form of government, public support, and historical action, this form of international comparison ignores the large and difficult challenge of the United States' size.

In fact, many American states emit enough greenhouse gases to completely overshadow individual nations across the globe, including a number of signatories of the Kyoto Protocol.[2] For example, when states are considered as countries rather than subunits of the United States, Texas comes in as the world's sixth greatest emitter (based on data from 1999), landing ahead of the United Kingdom and Canada, while California ranks sixteenth (surpassing Brazil) and Ohio out-pollutes Taiwan and Turkey from its position at number twenty one.[3] In light of these comparisons, the U.S. Senate and House of Representatives are essentially dealing with at least

eighteen miniature countries which rank in the top fifty global emitters when trying to craft a coordinated response to national greenhouse gas emissions.[4]

The Sightline Institute, a nonpartisan environmental think tank located in Seattle, Washington, has produced the following map to demonstrate this comparison of states and independent nations in terms of greenhouse gas emissions. The data is based on average emissions levels from 2001-2003. The map aptly demonstrates the complexity and magnitude of the greenhouse gas emission challenge facing any national reduction policy.

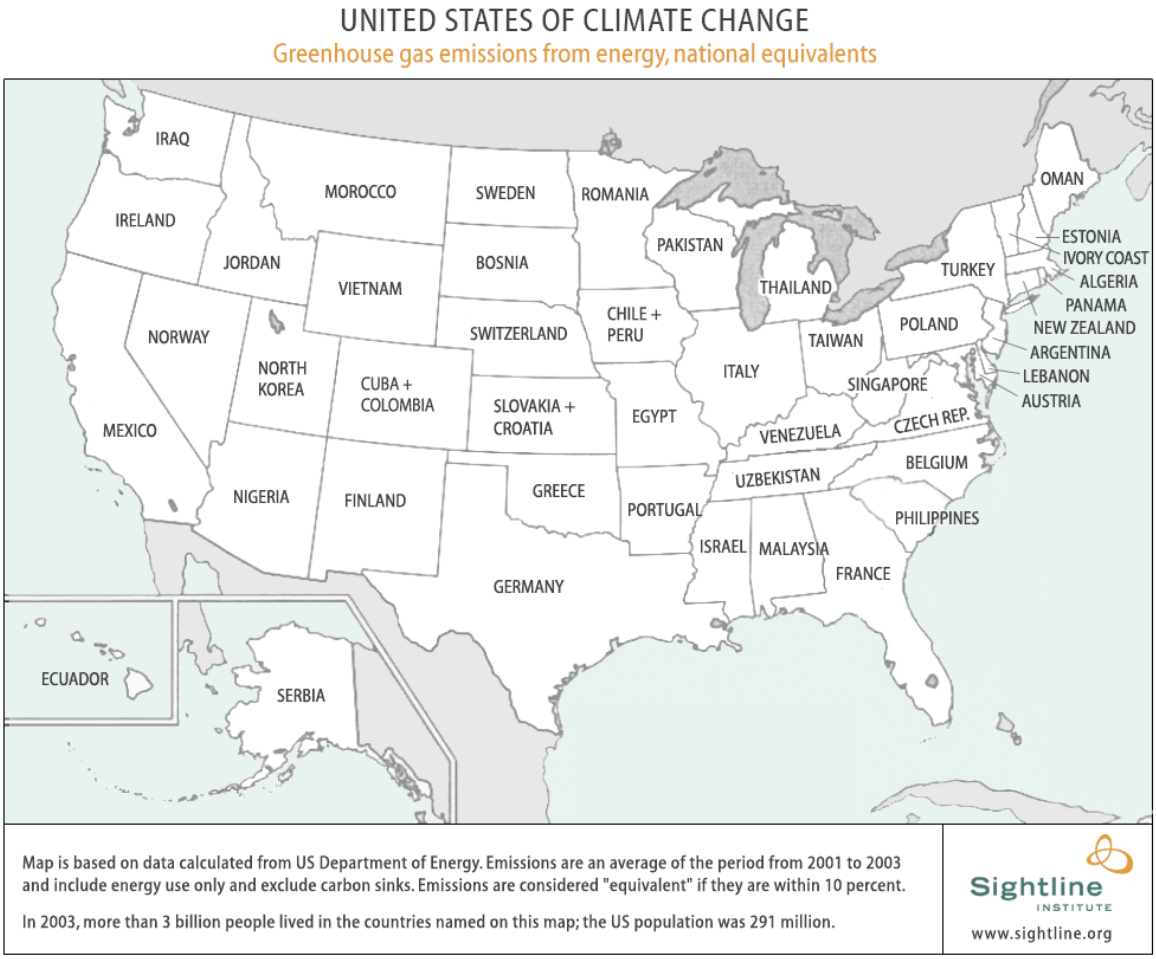

Figure 1-1.[5]

State and regional level action on climate change in America *may* be an alternative way to tackle global climate change for a nation as large as the United States.[6] It is difficult to ignore the fact that countries of comparable size, such as China and India, have also failed to enact an economy wide effort to cap greenhouse gases, indicating that their political leaders may face similar challenges of national size. Of primary importance for ardent supporters of a national scheme is the understanding that the U.S. Congress is dealing with, virtually, an agglomeration of miniature nations, each with its own populations and interests which all happen to be governed by a single national government. If naysayers begin to view senators and congressmen more as delegates for their home states to a miniature version of the United Nations, it becomes clear how the nation's size can play a significant role in finding a mutually agreeable climate policy.

Geographic Variation

The size of the United States might not prove to be as challenging for legislators if the country were of uniform climate, terrain, and resources. However, it is clear that a nation as vast as the United States contains considerable geographic variability, which brings with it a plethora of different concerns and potentially negative effects with almost every proposed climate mitigation policy. While most scientists would agree that climate change will impact all people and all places, there is little doubt that impacts will vary substantially by region,[7] and the associated policy dilemmas are likely to be equally different for representatives who are sent to Washington, DC to protect their individual districts.

Variation in state energy markets – from coal to nuclear power to hydroelectricity – dramatically affects state support for certain types of climate policies.[8] The energy portfolios for

each state are important considerations for any major environmental and energy legislation and will undoubtedly be major sticking points for legislators working on climate change policy.[9] Uniform regulations are certainly helpful for bureaucratic cohesion and may be ultimately better for a market-based system, but imposing a one-size-fits-all framework on vastly different states is neither politically feasible nor logistically sensible.[10]

The federal government tends to enact legislation that causes tensions with the states because of a strong "propensity to impose uniform standards on a diverse society, economy, and ecology" rather than attempting to take regional variation into account.[11] Some national legislators respond negatively to such federal uniformity in terms of energy and environmental policy. This response was markedly visible during the debates in the U.S. Senate over the Energy Independence and Security Act of 2007. When senators attempted to include a renewable electricity standard (RES) to mandate that American energy move toward alternative sources, legislators blocked the policy for fear of its disproportionate consequences on their home states.[12] Despite amendments to ease the transition for concerned states, the senators held firm and defeated the RES because it did not fairly take into account regional variation and access to resources.[13] Considering the fact that greenhouse gas emissions reductions require arguably more regulation than even an RES, it comes as little surprise that geographic variation is an important part of national climate legislation – and is one that further stymies federal attempts to institute a cap and trade policy of any sort.

Political Gridlock

The federal government's susceptibility to political paralysis due to a crowded agenda, high stakes, high visibility, parliamentary tactics, and other factors can also block major

legislation of any type.[14] Combined with an adversarial political atmosphere, the American legislative process is riddled with pitfalls and clever tricks which opponents of any bill can utilize in order to slow down or weaken legislation. Amid the clever ploys is also the constant concern of reelection for legislators which often prevents them from enacting legislation that presents a lag between its costs and benefits, making long-term climate change legislation a prime target for electoral challengers who take political advantage of the potential for upfront economic pain despite future gains.[15] All of these factors funneling into the political arena in the halls of Congress have certainly played a key role in hampering substantive climate change legislation. Compared to other nations that have passed emissions reductions, even the fundamental structure of the United States government is different. Most European countries that have succeeded in passing such legislation are governed by a parliamentary system in which the legislature and executive branch are ruled by the same party and, therefore, face considerably less gridlock than the American system tends to encounter.

State governments play a major role in this effort, as well, in an attempt to protect their interests (often associated with the aforementioned geographic constraints). State capitals send lobbyists who push hard to prevent adverse impacts on their states[16], while national partisan politics often tends to assist in subverting legislative progress. The combination of these factors leads to bills like the Waxman-Markey legislation of 2009 which cobbled together the interests of so many states and legislators that it may not have even approached the emissions targets it was initially drafted to accomplish.[17] For example, in order to get enough Democrats on board, the ACES bill allowed the free allocation of permits to coal-burning utilities, oil refiners, automakers, and manufacturers competing with India and China in order to appease regional interests at the expense of a more complete and efficient cap and trade system.[18]

Barry G. Rabe has done considerable research about the feasibility of Congressional action on climate change. He recognizes the difficulty of navigating the competing interests of regions, parties, and politicians, and he paints a difficult path for national climate change legislation. He contends that climate change legislation is possible, but it will continue to prove difficult for the federal government as policymakers try to appease competing interest groups, strike deals, and take into account the concerns of bureaucrats all the way from the EPA to the fifty statehouses across the nation.[19]

Emergence of State and Regional Plans

The consistent failure of the federal government to impose any form of emissions reduction policies has created the opening for policy experimentation at the subnational level.[20] Without a meaningful national response to the United States' high volume of greenhouse gas emissions, "a policy problem that has almost universally been defined as a responsibility of international and national governments [has] devolved on a de facto basis in the United States to subnational units."[21] In fact, under her theory of compensatory federalism, Martha Derthick proposes that "governments at one level of the system are able to compensate for weaknesses or defects of another."[22] This contention provides justification for states to take on climate change mitigation in the absence and/or inability of federal action.

States that have taken on the responsibility of climate change mitigation have "frequently [been] explicit about their desire to lead by example in the face of lagging federal policymaking. Many frontrunners seek to strategically demonstrate the feasibility of more aggressive climate change action" through their own policies and programs.[23] The emergence of state and regional plans has provided the means for a variety of policies to be tested in order to see what may or

may not work on a larger scale.[24] Ultimately, however, the question remains unanswered as to whether or not the U.S. Congress will be able to enact a national climate change mitigation plan. If compensatory federalism holds true and the federal government proves incapable of passing any sort of climate change legislation, perhaps the responsibility will remain with the states rather than evolve into a national policy. Considering the political and geographic hurdles of national action, a more decentralized approach may be America's only hope for a coordinated effort to reduce greenhouse gas emissions for the country as a whole.

States Take Action

By the time of President Barack Obama's election to the White House, nearly half of all U.S. states were involved in climate change mitigation of some form.[25] States have enacted an array of policies to regulate their own activities, such as emissions reduction targets, renewable energy standards, energy efficiency policies, and environmental tax incentives. This wide-ranging action on the part of so many states to combat climate change raises an important question: how have states managed to accomplish what the federal government has not?

The answer lies in both the political atmosphere of state policymaking and the ability to tailor policies for more definable state and regional needs. Unlike national policymaking, state capitals typically encounter less polarizing partisanship and remain informal and conciliatory rather than spending time on political rhetoric and clamoring for the limelight.[26] By focusing on issues rather than on politics, state legislators and bureaucrats are able to compromise on policies that take into account the "political and economic realities of their particular setting" and can build coalitions more easily than federal legislators have been able to do.[27] One important set of players involved at the state level who are absent in Washington, DC are high-level bureaucrats

and policy entrepreneurs who know how to work the system and find common ground on issues specifically relating to their state and government.[28]

On top of the political benefits of working within a state rather than at the national level, public support for climate change mitigation seems stronger when viewed within a state's borders. Perhaps citizens are more confident that their state representatives will avoid economic hardship or disproportionate effects than their federal counterparts, but the public support behind climate change policies must also be a driving force *for* politicians to act. In 2009 half of state residents believed their state government should adopt legislation to combat global climate change even if neighboring states did not act, and two thirds of respondents argued that their states were responsible for mitigating climate change if the federal government did not take action.[29] With a majority of citizens behind them, state officials have a stronger impetus to find compromise and take action in a way that has not yet translated to the federal government.

States Band Together

Recently states have started to take an even bolder approach to combating climate change by joining together in regional climate change mitigation initiatives. Three separate policies (RGGI, MGGRA, and WCI) have emerged since 2003 in which a number of geographically proximate states have agreed to institute a cap and trade policy regime within their region that can be tailored to their unique needs. These interstate pacts vary in their scope and current status of implementation, and all three were initially designed outside of the state legislatures at the behest of climate-minded governors. Appendix I provides a map of these regional cap and trade pacts which, in total, involve thirty-two states. This evolution of state policies to a larger scale may hold promise for future coordination among regions and, by logical extension, to the nation

as a whole. Each of these regional plans will be explored in more detail in the following chapters in order to assess their successes and to discern their place in American climate change policy moving forward.

Federalism and Climate Change Policy

Problems with Regional Action in a Federal System

Despite the potentially positive environmental effects of decentralized climate change policies and the encouraging signs of policy experimentation, a number of concerns emerge within a federal system, like that of the United States, when subnational units take charge of widely-accepted national duties. Ranging from the legality of such policies to the dilemmas facing the federal government once the regional and state policies are in place, federalism could prove to be a significant hurdle for a set of subnational policy regimes.

The first important debate regarding federalism and climate change policy involves the constitutionality of regional pacts like RGGI, MGGRA, and WCI. Any state policies that interfere with interstate commerce are unconstitutional, and because emissions regulations may deter the movement of goods across the borders of member and non-member states of such initiatives, regional pacts could be challenged in court.[30] A constitutional challenge could result in a massive blow to regional cooperation on cap and trade policies if federal judges find interstate commerce to be hampered by such state action. Equally concerning is the possibility of a constitutional challenge due to the interaction of MGGRA and WCI with international partners.[31] WCI and MGGRA both involve agreements with Canadian provinces (WCI also includes Mexican states), and the pacts could be portrayed and challenged as treaties between states and foreign powers. The limitations placed on American states prevent them from acting

as individual countries, and state participation in international climate change policies may be challenged as constitutionally unacceptable behavior.

Assuming that regional plans are not struck down by the courts, any national attempt to pass climate change legislation will now have to deal with the numerous state and regional frameworks across the United States. Certainly states and regions with complex climate change policies will not want to see a federal plan completely undo their hard work. However, because federal legislation trumps state-level policies, the issues of policy preemption by the U.S. Congress plague the debate on subnational climate change policy.

The biggest question regarding preemption of state policies by the federal government is not whether it will occur, but rather: to what extent. Posner describes the choice between *partial preemption*, which would establish a federal floor for regulation of greenhouse gases but would allow individual states to augment the policy with stricter standards, and *total preemption* which would establish both a regulatory floor and ceiling, thereby eliminating any autonomy of individual states and regions to amplify climate change mitigation.[32] Most climate change bills that have been considered by Congress have taken the total preemption approach rather than allowing flexibility to individual states and regions.[33]

With regard to climate change policy, states see some benefits to a strict federal standard, such as a decrease in competitive disadvantages among states, but most subnational governments want to retain the power to amplify their regulations.[34] Unfortunately, economic efficiency and the desire of businesses to have a uniform standard could make partial preemption unpopular.[35] These reasons, among others, imply that cap and trade may be most effectively implemented at the national level of government with total preemption.[36] However, total preemption could also limit the maximum environmental impact of cap and trade regimes by barring ambitious states

from pursuing more aggressive reductions. In light of that facet of a strict national standard, a more decentralized model with partial preemption may prove more effective at reaching emissions reduction goals.

Regardless of whether total preemption is economically efficient, the existence of state and regional climate change policies will force legislators to consider partial preemption in order to craft a policy that protects states from negative effects of a federal standard. Total preemption would devalue the permits and upend the entire policy structure of those states that have already enacted a cap and trade program, thereby forcing the federal government to compensate states involved in regional initiatives in order to attain support for any national measure.[37,38] Consequently, states that have already implemented policies will likely lobby against being penalized for moving early by seeking dispensations or exemptions for previously enacted policies,[39] and they may balk at total preemption, thereby unraveling the political feasibility of such an approach. Meanwhile, states that have lagged behind will demand assistance in order to avoid taking a hit from the start-up costs that early mover states would not face.[40] The issue of preemption complicates a national climate change policy, and its resolution will be especially difficult due to the wide array of climate change policies already found in the states.

Benefits of Decentralized Plans

Despite these complicated governance issues, the emergence of state and regional policies does promote the idea that the U.S. federal system allows the national government to capitalize on the experiments of subnational units in order to ascertain the best possible solutions for national problems. Many state-level actors have adamantly argued that their climate change policies are not meant to be permanent, but rather are in place to give the federal government the

ideas and confidence to enact a national cap and trade policy.[41] In fact, many scholars and states assert that because climate change is a global problem, "state and regional policies cannot substitute for a coordinated national response, but they provide foundations, models and impetus for that response."[42]

The adoption and expansion of state initiatives by the federal government comes largely from the advocacy of state officials for their policy successes and the attempts by interest groups and policy entrepreneurs to convince national policymakers that such policies are feasible, effective, and popular.[43] Certainly one way forward for a national climate change policy would be through the emulation of state policies, and the recent explosion of state action provides national legislators with a number of ideas and options to pull from in order to create an effective national system.[44] Rather than reinventing the wheel for climate change policies, Congress can take advantage of state experiments, and states can effectively lobby national legislators based on concrete experience in mitigating greenhouse gas emissions.[45] By using the empirical evidence of statewide policies and taking account of the compromises made between interest groups at the state level, the federal government can ease the transition and eliminate substantial uncertainty in its policy approach.[46] Ultimately, even if state and regional policies do not represent the final answer, they will inform the debate at the national level enough to possibly result in a more grounded federal policy.

Moving Forward

Clearly the implementation of a national reduction of greenhouse gas emissions is not a simple policy puzzle. There remains no clear answer as to which level of government should take the helm on climate change mitigation. Federalism presents serious issues with state-by-

state efforts to combat climate change and may hinder the ability of the federal government to enact a policy that does not hurt many individual states. Fifty separate state policies will undoubtedly turn into a bureaucratic nightmare that pits states against one another and has no cohesive approach to decrease greenhouse gases. However, a blanket national policy has proven difficult to pass and likely imposes an unrealistically uniform approach upon a multifaceted and diverse set of circumstances across the country. Due to the sheer magnitude of the United States, its geographic variability, and the treacherous national political scene, a federal policy regime may be out of reach in the coming decades.

Therefore, the emergence of multi-state regional plans may be a compromise that can structure the way forward. This would require a significant paradigm shift in the eyes of state and regional policymakers toward a decentralized yet coordinated approach, but if the U.S. is serious about tackling climate change, it may be the only option. Luckily, the three existing regional climate change mitigation policy agreements provide a look into the possibility of an emissions policy future based on interstate cooperation and regional specificity. Each plan is at a different stage of development, centers around a different suite of policy devices, and takes into account different regional complexities. Understanding how these pacts operate and where their strengths and weaknesses lie is critical to assessing the possibility of a coordinated regional policy approach to U.S. climate change mitigation. Regional plans, however, have a unique set of specific deficiencies and unresolved concerns that hamper their expansion and implementation on a national scale. Consequently, before delving into the specifics of the three regional plans currently enacted or under consideration, it is important to understand the policy devices and major issues facing both the regional initiatives themselves and the possibility of their more permanent extension as the basis of an American emissions reduction policy.

Endnotes

[1] Rabe, Barry G. *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy*. Brookings Institution Press: Washington, DC, 2004. 5

[2] Rabe, 2004, 154.

[3] Rabe, 2004, 5.

[4] Rabe, 2004, 5.

[5] "United States of Climate Change - the 50 States." Originally published in: *The Daily Score*. Sightline Institute. Seattle, WA. 2007. Used with permission. < http://www.sightline.org/maps/maps/Climate-50StEmissions>.

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Chapter 2

An Obstacle Course: Identifying Difficulties with Regionalism
(Assessing Regional Emissions Policies)

As fledgling regional cap and trade initiatives have emerged across the United States, they have taken slightly different forms and pose a new set of challenges to state governments. While a cap and trade policy is certainly different from a carbon tax, there is a wide spectrum of policy device choices that can dramatically affect the implementation and structure of an emissions trading regime. A basic understanding of the policy options available to a cap and trade scheme is necessary in order to recognize the uniqueness of each of the regional plans and the potential pitfalls these choices create. Likewise, regional variability in resources and subsequent limitations must be highlighted to better explain *why* these policy choices are made.

Once a policy is in place, however, the ever-looming question of economic impact hovers over policymakers and bureaucrats. In order to fully delve into the three regional policies, a list of economic considerations and concerns must be adequately laid out. These economic factors create a frame through which many policymakers and interest groups view and assess cap and trade policies.

Lastly, a summary of issues unique to *regional* plans without formal statutory commitments or national oversight provides a glimpse into the special challenges facing regional cap and trade initiatives if they were to become the basis for American climate change policy. Without a solid understanding of all of these issues associated with regional pacts, critical analysis of policy choices and proposals for the future would be shortsighted, at best.

Cap and Trade Policy Device Choices

The basic structure of a cap and trade, or emissions trading, policy is well outlined by Leigh Raymond. He describes the policy framework as follows:

> Policymakers set a limit on total pollution and then assign private rights to emit shares of that pollution… those rights are often referred to as "allowances." Polluters must hold an emissions allowance for every unit that they emit in a given period of time, with the fixed number of allowances maintaining the overall cap. Polluters may buy and sell allowances (the "trade" portion of the policy), so that those with high pollution abatement costs may save money by purchasing allowances from firms that can make emissions reductions more cheaply.[1]

In the case of global climate change policy, the pollution being regulated is in the form of anthropogenic greenhouse gases. Over time, policymakers can reduce the size of the cap in order to minimize the environmental impact of emissions by further limiting the allowable amount of pollution. With fewer allowances, or permits, industries are thereby forced to innovate and reduce emissions. Unlike a carbon tax a cap and trade program creates a fixed amount of pollution without limiting the potential costs of the program.[2] In other words, the price of permits can fluctuate but the number of permits must stay within the range of permissible greenhouse gas emissions.

In a broader sense, cap and trade schemes are often limited in effectiveness due to the difficulty of compliance and enforcement.[3] This project focuses solely on the market-based cap and trade approach to climate change, but arguments can be made that other policy choices may be more effective. Because of the United States' affinity for market-based policies, a cap and trade regime is likely the most politically feasible approach rather than options such as a carbon tax. Within the framework of a cap and trade system, however, there are a number of different policy devices that can be utilized which affect the revenue stream, efficiency, political feasibility, and overall implementation of a trading regime.

Permit Allocation System and Revenue Distribution

Among economists and policy experts, there is little argument that auctioning greenhouse gas permits under a cap and trade system is more economically efficient than freely allocating permits to existing polluters.[4] Economic efficiency, however, is not the only factor affecting the choice of an allocation system. For many policymakers, including the free allocation of at least *some* permits makes a cap and trade regime more politically palatable to influential interest groups and businesses associated with energy producing industries.[5] For these reasons, the existing regional plans often employ hybrid systems of permit allocation, but they are intent on moving toward auctioning all permits as the programs mature.[6]

Under an auction system, permits for greenhouse gas emissions are sold on an open market by the government where all industries come to the table with equal access to purchasing and where revenues land squarely in government coffers.[7] Certainly such a system promotes market-based competition between firms to decrease their emissions and need fewer permits, but for policymakers, the major question is what to do with the revenues produced from these auctions. These funds can be directed toward programs to decrease the overall economic cost of a cap and trade policy on society through a number of ways.

One common destination of auction revenues is research and development of renewable energy production.[8] It is clear that a cap and trade system is intended to reduce carbon emissions and promote alternative means of energy, so it makes sense for revenues to be directed explicitly toward this purpose. One important benefit of using the funds for renewable energy and efficiency technologies is that these funds can stabilize and expand the alternative energy market. This market expansion demonstrates to the business community the serious and long-term commitment of the government to a substantive reduction of greenhouse gas-emitting energy

production.[9] All three regional initiatives currently redistribute (or plan to redistribute) auction revenues toward the advancement of alternative energy in some capacity.[10] While the plans vary in what percentage of their permits are auctioned rather than freely allocated, each region has recognized the benefits of promoting renewable energy with these funds.

Revenues can also be directed toward efforts to make cap and trade policies more politically palatable to consumers. The public's fear of increased energy prices as a consequence of a cap and trade system has led some interest groups to promote "cap and tax" terminology in an effort to scare legislators away from enacting unpopular legislation.[11] However, public backlash to increased energy prices can be offset by a "cap and dividend" approach where the revenues from government auctions are redirected to consumers in the form of a rebate to minimize or completely cover any increase in home energy prices.[12] This policy has been pursued by RGGI in the Northeast for low-income families and was proposed at the national level in 2009 by Senators Maria Cantwell (D-WA) and Susan Collins (R-ME) through the CLEAR Act in an effort to address widespread concern about a so-called "energy tax".[13]

Revenue redistribution to consumer benefit and renewable energy programs creates additional positive social outcomes under an auction-based cap and trade policy. When combined with the economic efficiency arguments for auctioning and the understanding that an auction system is more capable of changing emitters' behavior, it is no wonder that President Obama's preferred cap and trade policy involves auctioning *all* permits.[14] However, the political feasibility of a complete auction system is truly daunting at the national level, as well as the state and regional level. As seen in the ACES legislative process in 2009, powerful interest groups and constituencies disadvantaged by a capped economy often exert a strong influence on legislators to provide cushioning in the form of free allocations.[15]

Despite these convincing arguments in favor of auction allocation, Christian Azar lists three reasons beyond simple political expedience for protecting industries by offering free permits. He contends that protecting industries in this manner reduces "carbon leakage" (the shifting of activities outside of the state/region in order to avoid regulations), avoids job losses in important sectors, and prevents a loss of the capital that industries provide to a region.[16] Unfortunately, such free permits can ultimately increase the cost of reducing emissions and have the possibility of becoming entrenched and difficult to roll back when auctioning becomes preferable.[17] It seems clear that auctioning permits and dispensing the revenue in a meaningful way will ultimately help ensure the success of a cap and trade policy by promoting a true reduction in greenhouse gas production and spurring innovation, but Azar demonstrates that big business and energy industries certainly have arguments with which to lobby decision-makers.

Determining an Adequate Cap

Among the challenges facing any cap and trade program is determining how to calculate the proper cap on greenhouse gas emissions. Lisa Emelia Svensson argues that when choosing the number of allowances under a cap, policymakers must walk the line of releasing enough to promote competition but restricting the cap enough to make the policy effective.[18] A restrictive cap on greenhouse gases is the only way to truly force industries to reduce emissions and make a significant impact on global climate change.[19] For regional plans, the issue of state boundaries comes into play when establishing a cap. RGGI, for example, establishes a cap for each state rather than for the entire region in an effort to fairly allocate emissions allowances to properly sized emitters while also remaining within the framework of a region-wide goal of emissions reductions.[20] Over time, the cap can be made smaller or the number of permits may be decreased

by policymakers in order to effectively diminish pollution as industries become more capable of such abatement.

Offsets

The other major policy device employed by cap and trade regimes is the concept of emissions offsets. Offsets are purchases, energy efficiency improvements, or actions outside of the mandatory regulations which reduce greenhouse gas emissions and can be used as a way to make up the difference for excess tangible emissions produced by a given industry.[21] RGGI, WCI, and MGGRA all allow the use of offsets but restrict them to a certain percentage of emissions reductions and regulate the qualities that determine an acceptable offset.[22] While offsets provide an important source of flexibility for industries that may underestimate their emissions reduction capabilities, policymakers must avoid allowing firms to abuse the privilege of offsets. A cap and trade policy cannot be ultimately effective if the purchase of offsets in another area of the country or globe can make up for not reducing emissions and improving energy technology at home.

Regionally Specific Choices

Geographic variation was discussed in Chapter 1 as a major reason why a national cap and trade plan will prove difficult. The creation of winners and losers under a nationwide scheme would be inevitable given the different challenges and resources in each region. The emergence of regional plans can take on these issues more effectively by implementing specific policy devices that promote greenhouse gas reduction while taking into account the limiting circumstances of each region's geography. Smaller-scale policies, such as tax incentives and

emissions exemptions, can be tailored to the needs of regions at a more realistic level than on the national scene where all of the individual loopholes could riddle a comprehensive policy with too many holes to be effective. For example, a Midwestern plan could give special deference to biofuel production through its tax code or permit allocation system, while a Western system could instead focus on the solar power industry that has great potential in the desert terrain. These policy choices made by government officials familiar with regional needs and resources can maximize economic efficiency and minimize both backlash from interest groups and economic stumbling blocks at the regional level.

Long-Term Policy Needs

Within the confines of a cap and trade system, U.S. policymakers must enact certain long-term policy devices to attain maximum effectiveness and efficiency. One of the key components of making a system of regional plans work effectively in the United States would be finding a way to link policy regimes to one another. The regional plans are already beginning to establish rules about counting one another's offsets,[23] but ultimately a coordinated effort is needed to tackle a national, and ultimately global, problem. Raymond argues that "trading between different 'capped' regions seems important to any future global solution to climate change – linking various regional and national carbon markets together to take advantage of greater differentials in marginal costs of compliance across borders."[24] This mode of thinking about international climate change mitigation is easily applicable to a micro-scale model of the United States and a series of intranational regional cap and trade policies. Economic efficiency and long-term effectiveness will demand that regional plans find ways to differentiate themselves while still working together on the borderless issue of climate change.

Economic Concerns of a Regional Approach to Climate Change Mitigation

Many opponents of both national and regional greenhouse gas reduction policies focus on the potentially negative economic implications of pricing carbon emissions. While policymakers who craft these regional plans assure the public that they have structured the policies to provide net economic benefits, independent reports on the economics of these plans often claim otherwise.[25] With interest groups pointing toward economic projections that depict cap and trade policies as bad for growth and discriminatory against the average citizen, politicians have no choice but to take on the economic argument. Policymakers must prove that a cap and trade scheme will not negatively affect economic growth. Otherwise, dire economic analyses could unravel and undermine any climate change mitigation plans.

State governments are especially sensitive to economic development,[26] which is always a major, if not dominating, factor in state policymaking regarding greenhouse gases.[27] In fact, many states that have enacted climate change policies promote emissions reductions as an opportunity to serve the state's economic self-interest.[28] Despite the difficulty of getting legislators to enact policies that have long-term payouts rather than short-term gains, many states believe that their climate policies will bear fruits down the road and will ultimately prove to be economically prudent.[29]

The strong influence of economic success on state lawmakers has certainly helped shape the three regional policies in the United States. These efforts are bolstered by a strong public belief that renewable energy will bolster a state's economy.[30] However, public opinion also indicates that citizens are less likely to support cap and trade if it has negative economic impacts.[31] For these reasons, politicians must take into account the full range of economic effects that could depress growth and prosperity. A number of arguments have been made

against regional and national cap and trade programs which must be addressed by regional policymakers if an agglomeration of regional plans has any long-term viability.

General Economic Costs of Greenhouse Gas Regulation

Lee Lane states that "controls stringent enough to stop global climate change would cost more than the damage expected from climate change,"[32] and he advocates that only slow implementation of greenhouse gas reduction policies can lead to economic benefits.[33] He rightly points out that legislators see it as politically dangerous to support policies that lead to increased prices on their constituents, and he proposes that only modest, low-cost control programs are truly feasible.[34] This basic cost-benefit analysis of climate change policy seems to pervade many of the arguments made by opponents of greenhouse gas regulation. However, while any cap and trade regulatory framework involves a series of costs to businesses, energy providers, and others, the ultimate fiscal consequences of inaction are still unknown.

Contrary to Lane's predictions, Jaffe et al find that there is little support for the idea that environmental regulations have disproportionately negative effects on economic competitiveness (at least in the manufacturing sector).[35] They acknowledge that economic tradeoffs will certainly exist, but their research expresses confidence in the ability to implement flexible and cost-effective solutions that protect competitiveness, reduce costs, and avoid an undue burden on businesses and society at large.[36] These competing ideas greatly affect the opinions and actions of policymakers, and both arguments will be revisited in the following chapters as they relate to regional cap and trade plans across the country.

Another frequent criticism of cap and trade policies is the expected rise in electricity costs on consumers. While the aforementioned cap and dividend approach is one way to address

this problem, the actual likelihood of major price increases is uncertain. Selin and VanDeveer assert that RGGI's energy efficiency components compensate for the less than 1.5% increase in residential electricity rates through 2021,[37] indicating that concerns over rising electricity costs may be overblown.

These are only the first of many economic concerns that face policymakers charged with designing a cap and trade policy. Ultimately, for politicians, jobs will almost always trump the environment, and for this reason, cap and trade policies must be created in a way that either reduces economic hardship or has neutral economic effects. The following sections outline a series of common economic concerns with which each regional policy must contend in order to be politically and logistically successful. If RGGI, WCI, and MGGRA can effectively combat these economic dilemmas and combine them with efficient policy devices, regional initiatives may stand a chance in the coming decades.

Race to the Bottom

One economic concern that pervades many subnational regulatory policies is the concept of a "race to the bottom". This hypothesis suggests that as states take on stricter regulations, businesses and capital may move to nearby states that have more lenient standards and therefore provide more welcoming business climates.[38] Regional cap and trade programs clearly leave room for businesses to move to other states within the country that are not controlling emissions or requiring active efforts to reduce greenhouse gases. Lane states that "energy-intensive businesses may just move to states without carbon controls"[39] in order to avoid complying with regional limitations.

The possibility of a race to the bottom is theoretically sensible. States that enact regional cap and trade policies are asking businesses and residents to make sacrifices to change their day-to-day operations in return for benefits that both spill over into other regions and take decades to produce tangible effects.[40] This variation in policies across the country may even drive some electric power generators, which cannot simply move locations, to advocate for national standards to level the playing field rather than face disproportionate effects based on location.[41]

Within all three of the regional plans, states can either join as observers or signatories. Observer states are those that do not commit to any participation in the actual cap and trade market, but they have the right to attend meetings and provide input.[42] One impetus for these states remaining outside of the regulatory framework may be a desire to avoid stringent or burdensome emissions controls that could discourage investment. In a country like the United States where moving across state lines is not a difficult maneuver for mobile enterprises, promoting a state as a friendly business climate is an important part of state government that cannot be overlooked. Of especially grave concern to state leaders is the fact that "private entities 'do not feel any particular affinity to the states in which they operate'",[43] meaning that a business that feels competitively disadvantaged will simply move if it makes sense for its bottom line.

The concern over a race to the bottom has been demonstrated explicitly within some of the regional plans. In 2008, New York Governor David Paterson publicly considered withdrawing from RGGI "because of concerns that businesses in the state might move outside the region in search of cheaper power."[44] Similarly, an interview with the Deputy Director of Policy, Planning, and Operations of the Arizona Department of Environmental Quality revealed that economic concerns about the competitive advantages of the state were a major reason why

Governor Jan Brewer rolled back Arizona's involvement in WCI upon her ascendance to the governorship.[45] Recently, Nevada has embarked on a campaign to lure California businesses into its borders by promising, in part, laxer environmental and labor regulations.[46] This shows that state policymakers are swayed enough by the logic of a race to the bottom to take action in an effort to reap the benefits of having more regulation-intensive neighbors.

The race to the bottom, however, remains mostly a theoretical argument rather than a tangible one. There is little evidence that a race to the bottom actually occurs between states as a result of environmental regulation,[47] perhaps due to the costs of picking up and moving an entire business operation. However, the *fear* that government officials have about the possibility may be a significant factor in preventing them from engaging in any policies that could lead to a race to the bottom. In an attempt to preempt any negative economic impacts, state officials may ultimately be worried about a highly improbable phenomenon. On a more pessimistic note, politicians may also use the race to the bottom as a convenient rationale for opposition to something for political purposes, as has been seen with similar race to the bottom arguments regarding state welfare policy.[48] Officials can use the pretense of a race to the bottom as political cover for choosing not to participate in a regional plan, even if they are not literally concerned about its effects.

The specter of a race to the bottom may prove to be a major concern that affects climate change policy within the United States at a decentralized level. Avoiding a race to the bottom would ultimately require collaboration among states in a way that is rare in the American federal system.[49] Clearly all states want to out-compete one another, and the refusal to join regional pacts may be, in part, a strategic effort to provide a more welcoming business atmosphere. In

order to avoid a serious race to the bottom, regional plans must find incentives to keep business within their borders and provide assistance and flexibility for reaching emissions targets.

Free-Riders

This very possibility of states strategically avoiding regional pacts in an effort to gain an economic advantage is an example of the free-riding problem that worries those states participating in cap and trade programs. States that remain outside of a regional cap and trade program can take advantage of the potential increase in competitiveness and provide refuge for struggling businesses in nearby states where greenhouse gas regulations are in effect. Some such free-riding states assume that a race to the bottom is possible and stand by with open arms to welcome businesses fleeing from higher energy prices and stricter regulations. This influx of capital into non-member states can drain economic growth in those states taking part in a cap and trade program, and this concern may prevent some states from joining into a policy agreement.

Free-rider states also take advantage of the positive effects of regional greenhouse gas reduction. The associated technological innovations that cap and trade programs may produce will spill over into nearby states that can utilize new renewable technologies without paying the policy price for spurring the research and development. Similarly, the environmental benefits of decreased greenhouse gases do not stay within the confines of a state's borders. In this way, free-riders both reap economic rewards from the business community *and* enjoy the environmental impacts of their neighbors' hard work.[50] Regional greenhouse gas reduction plans must find a way to protect member states from the exploitation of free-riders or else they will face policy instability as first mover states back away from economically detrimental policies.[51]

Minimal Economic and Environmental Return

Economic assessment reports from regional cap and trade policies tend to paint the best possible picture for their initiatives. However, most of the official reports from RGGI and WCI demonstrate a *marginal* set of positive economic effects despite the high upfront political and economic costs of setting up an emissions trading program.[52] The benefits of renewable energy production and a better environment are often hard to justify when they are associated with sometimes politically bruising battles with interest groups, big business, political opponents, and the general public.

Similarly, regional mitigation only makes a small dent in the reduction levels necessary for reducing the *global* problem of climate change.[53] In fact, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont (six of the ten RGGI states) collectively produce only three percent of the United States' total emissions,[54] which is not even close to the dramatic impact of American greenhouse gases on climate change. Meanwhile the Western Business Roundtable's 2009 report on WCI claims that the program's effective implementation would produce a temperature benefit of only one ten-thousandth of a degree Celsius by the year 2100.[55] Economically, then, the cost of cap and trade policies may not be justified by such minimal results and impacts on climate change. All things considered, a national plan would take a more coordinated and comprehensive approach toward reducing American emissions and would likely make a more realistic dent in the United States' share of global emissions, while a disjointed regional response leaves many holes and places for emissions leakage. The question, of course, is: if the United States government cannot get something passed, are regional plans better than nothing?

Business Needs

Of course, the major player in economic wellbeing of states and regions is so-called big business. Businesses provide capital and jobs to every state and region, and their economic success is a pivotal part of any effective greenhouse gas emissions reduction plan – regionally or otherwise. There are economic hardships for businesses associated specifically with regional initiatives that must be taken into account and addressed by policymakers if any comprehensive effort to enact effective regional cap and trade policies is to succeed. Clearly business is a top priority for state governments, so the ultimate success and palatability of a regional plan depends in large part on its relationship with businesses and business leaders.

Many businesses would prefer that no major emissions policies be enacted at all in order to keep energy costs down and maximize profits. Unfortunately for them, the reality is that states and regions are taking on the responsibility of the federal government to combat climate change. While it may seem likely that businesses would rather have policies tailored to their needs, many business interest groups are instead advocating for "a single federal devil they know, [rather than]… hundreds of pesky and unpredictable state and local demons they don't."[56] As businesses globalize, they have begun to seek centralization of regulatory policies in order to standardize their working conditions and make business more streamlined.[57]

Regional pacts make this call for standardization difficult. Often referred to as a "patchwork quilt" of standards, businesses are becoming frustrated with operational inefficiencies that emerge as they try to do business under multiple regulatory regimes across the United States.[58] With a policy as all-encompassing as emissions reductions, energy prices and individual pollution requirements can vary across regions and states, which can provide a headache for businesses. Rather than remaining staunchly opposed to any emissions reduction

policies, businesses are instead beginning to accept the fact that American policymakers want to do something about climate change and are throwing business support behind a national plan rather than a series of different regional and statewide policies.[59]

However, there are also benefits for businesses under this patchwork of policies. The current decentralization of policies has given business leaders insight into the effects that different climate change policy devices could have on them and has informed their lobbying efforts at the national level.[60] Now that they have seen which state and regional ideas are the most business-friendly, business interest groups can push the national Congress for the most economically beneficial alternatives to greenhouse gas reduction. Such national action would provide regulatory certainty and would decrease disadvantages based on location.[61]

Another concern regarding the variation in climate policies across regions relates to the long-term outlook for a coordinated national approach to emissions reductions. Lane suggests that businesses that are forced to innovate under existing state and regional plans will be undermined by any national legislation, while those that have not yet been forced to act will be hurt by federal regulations. The concern here is that state and regional level action may decrease the appeal of national plans for all states and businesses.[62] Thus, the need to provide some sort of regulatory uniformity is time sensitive as businesses in different regions of the country begin to diverge regarding their environmental and energy proficiencies. If a national policy is out of the question politically, then the demands of business leaders for policy stability and predictability further bolster the importance of regional plans finding a way to link together so as to provide some overarching framework within which businesses can operate across the nation.

Regional policymakers can also address some of these issues individually by including incentivizing policies that assist businesses under a cap and trade scheme. Tax breaks, permit

loopholes, offsets for innovation, and other rewards to environmentally conscious businesses may make a state under a regional emissions reduction policy more business-friendly. The key is encouraging businesses to *want* to invest in renewable energy and efficiency.[63] While putting a price on greenhouse gases through a cap and trade system uses market forces to promote this, additional policies that lend a helping hand to businesses may go a long way in reducing some of the competitive disadvantages of doing business under a decentralized emissions reduction regime.[64]

Design Deficiencies of Current Regional Plans

Of course, there are important components of successful public policy beyond economics. Regional cap and trade pacts in the United States face a number of challenges in their current form that undermine their viability on a national scale. These deficiencies need to be addressed in order to stabilize the plans regionally and will be key aspects of any future for regional or national plans. If these multi-state emissions reduction regimes can iron out the issues of instability and uneven performance, they will be on more solid footing to serve as the model for future collaboration at the regional and federal level.

Electoral Volatility and Political Instability

All three of the regional plans began as (or still are) agreements between the executive branches of state governments. These pacts, at least initially, avoided the legislative process that has proven so difficult to navigate at the national level. This distinction cannot be ignored because it may be part of understanding *how* the design of regional cap and trade plans has succeeded where national efforts have, thus far, failed. When the policymaking process is

narrowed down to the governors and, often, industry leaders of a few states, compromise may be more attainable and partisan bickering may be minimized. These governors also assured considerable flexibility in all of the plans by providing provisions for states to withdraw from regional cap and trade regimes with limited notice. This inherent lack of long-term, solid commitments has proven ineffective in a country where elections can dramatically alter the direction of state policy.

The frequent changing of elected officials in U.S. states brings with it electoral and policy instability for regional cap and trade plans. Many governors have the ability to leave plans on a whim, as was demonstrated by Governor Paterson's consideration of withdrawal and Governor Jan Brewer's recent roll back of Arizona's commitment to a WCI trading scheme. This leaves regional approaches very erratic and unreliable in their current form because they lack any binding commitments to participate in the program long-term. Such electoral volatility was on full display in the 2010 New Mexico gubernatorial election where both the Democratic and Republican candidates for governor promised to scale back New Mexico's involvement in WCI's cap and trade scheme.[65] The 2010 elections saw a number of governorships change partisan hands, leaving the future of many regional plans up in the air.

This policy instability is not only bad for a consistent and concentrated approach to mitigating global climate change, but it also provides uncertainty for already-frustrated businesses and creates many cracks in the foundations of these regional plans. As the oldest of the three regional initiatives, RGGI states found a way to deal with the political and electoral instability of these loosely formulated regional pacts. From the planning stages, RGGI policy designers realized the fragile nature of such interstate cooperation and laid out a structure to decentralize the process of signing onto the agreement. The initiative requires each participating

governor to submit either state legislation or executive branch regulations to tie each state to the RGGI pact.[66] Whether through state legislation or environmental agency regulations, this method establishes a strong commitment and limits policy uncertainty. Both the regulations and statutory commitments are based on the "Model Rule" of RGGI which lays out the agreement details for states to adopt on a state-by-state basis.[67] By decentralizing the process to the states themselves, RGGI has institutionalized itself in these governments, reduced instability, and possibly helped the long-term health of the program by preventing the possibility of a major collapse of the entire system.

Unfortunately, the RGGI model for stability has not extended to the Western and Midwestern state legislatures. In fact, policy uncertainty has been further advanced by legislatures like that of Arizona, which passed a law banning the state from entering into greenhouse gas reduction plans without the approval of the state legislature.[68] Many Western state governments have been operating strictly under the governor's directives and the commitments of state agencies, but many governors are facing pushback from their more conservative legislative bodies.[69] For example, in Washington, Democratic Governor Christine Gregoire is awaiting approval by her state's legislature to move forward with the cap and trade scheme.[70] While the demands from state legislatures may be frustrating to cap and trade-minded governors, the institution of statutory language may in fact be helpful for establishing some form of certainty and consistency across electoral changes in the governors' mansions.

In the meantime, some reform must be enacted in order to provide accountability on the part of governors. With clauses that allow states to back out of regional pacts with little notice, even a governor who is on board for the cap and trade policy does not have any disincentives to withdraw if state political forces shift toward that position. Some sort of mandate or punishment

scheme must be enacted to ensure that regional leaders will stay committed to any cap and trade policies they enter.

Uneven Performance and Capabilities

One of the largest obstacles to a state-centric system of climate change policy is the uneven performance of climate change mitigation across the United States.[71] Conspicuously absent from any regional plans are the Southern states, which can rightly be considered laggards in the national move toward climate change mitigation. As was revealed during the 2007 debate in the U.S. Senate over a renewable electricity standard, the Southern states contend that they are economically and geographically ill-equipped to make the move toward renewable energy.[72] This uneven performance, of course, will have economic impacts like free-riding and a potential race to the bottom, but more importantly for the future will be the South's position should any major efforts for regional or national plans come their way. By having no experience with a cap and trade policy and little investment in renewable resources, the South will face an even steeper climb toward economic stability and emissions reductions in the future.

Outside the South, even among regional plans there is significant variation in how aggressively the states are taking on climate change emissions. Consequently, uneven performance will make it difficult to link current and future policies together. Additionally, as certain states become more and more likely to be significant losers under any national system, uneven performance further drives away the possibility of a single federal policy.

Can Regional Policies be the Answer?

As this chapter has shown, a large-scale regional approach to cap and trade policies across the United States would not be a simple endeavor. Regional policymakers face difficult policy design, economic, and logistical challenges to creating stable, effective, and socially beneficial policies that could be linked across the country. The appeal of regional plans is the ability of sections of the country to take into account their own needs rather than trying to cobble together all of these separate interests into one behemoth of a bill in the U.S. Congress. However, even the concept of moving toward a regional mentality would be a massive paradigm shift for state-level policymakers, who have consistently seen their own policies as short-term solutions with the intent of informing and spurring the national debate. This shift is not possible unless the regional plans currently in place can prove themselves to be effective and can adequately combat and overcome the shortcomings described in the preceding pages.

The differences across regional cap and trade plans currently under various stages of implementation will provide the country with a series of experiments from which to draw for any form of future attempts at nationwide mitigation of greenhouse gas emissions. However, only after analyzing the economic viability, design structures, and political stability of each plan can a clear winner – or hybrid of winners – be determined. Ultimately, a closer look must be taken at the three regional plans to better assess the possibility of a coordinated subnational approach to mitigate American greenhouse gas emissions. The following chapters will evaluate the economics, politics, and policies of all three regionally tailored cap and trade regimes in an effort to uncover the greatest strengths and weaknesses of each approach. After briefly describing the history and context of each plan, the following case studies will investigate the following facets of the three regional plans:

Policy Basics

Cap and trade schemes are complex and multifaceted. The basic policy structure of these regional plans is important to understand because each of them represents a different form of policy experimentation among the states. Because these plans can inform the national debate on climate change policy, getting to know what actually works and how the system functions is key to determining whether or not a comprehensive national cap and trade regime is within the realm of possibilities for the United States. The intricacies of each regional policy will be explored in order to understand what options and ideas are available, and the penultimate chapter will summarize which policies make the most sense in the context of either a comprehensive or a piecemeal national cap and trade regime. Throughout the proceeding discussion, please reference Appendix II for a comparative table produced by the World Resources Institute which visually displays the major policy design differences among the three regional plans in order to highlight both similarities and difference across regions.

Politics

The political forces behind instituting a cap and trade scheme are known to be treacherous. Politicians seek to maintain the appearance of protecting the environment, the economy, and the public all at once. Striking the right balance across these three fields is difficult with environmentalists pushing for strict regulation and businesses often warning of economic fallout. As politicians traverse public opinion and policy responsibilities, they also face the questions of: what are the benefits of these programs, how do we get them rolling, and what will happen in the next election? These issues are all important when looking at the three regional plans. Some political issues are unique to regional climate change policies, while other issues would dog national policymakers as well. As with the majority of this national vs.

regional debate, the politics provide both pros and cons to a regional approach and shed light on why certain decisions and actions have been made.

Economics

Certainly the economic impact of each regional plan is of critical importance to understanding whether or not these policies will work, and, for that matter, whether a national plan is viable, as well. The inseparable link between public policy and economics has been at the forefront of research for states involved in regional pacts in order to assess the success of these policies on the whole. Economic issues range from overall impact on the regional economy to the race to the bottom and free-rider dilemmas. Finding a way to ensure economic stability under a cap and trade policy must be the top priority for policymakers wishing to expand climate change mitigation policy across the United States (at a federal *or* regional level).

Regional Specificity

The degree of regional specificity associated with these cap and trade programs is a key part to understanding why and how they work. While giving special breaks to certain industries can be seen as a way of weakening cap and trade plans, such carve-outs may be the only path toward substantive policies to reduce greenhouse gases. If RGGI, WCI, and MGGRA all demonstrate significant regional specificity, it would follow that the need to placate some interest groups and tailor the plan to a region's limitations and geographic resources may be the lifeblood of American cap and trade policies. A national plan riddled with loopholes to appease regional interests across the country may not be as effective as the fine-tuned policymaking that can define a regional cap and trade regime. The following case studies will highlight evidence of such regional specificity and comment on their relevance.

The final two sections in each case study will identify major limitations under each regional plan and summarize important lessons that can be gleaned by each regional approach. Through careful analysis, this report will outline a way forward that utilizes the major benefits of regionalism while simultaneously addressing the deficiencies of such an approach. After taking a critical look at RGGI, WCI, and MGGRA, a more complete insight about the future design of a national effort to reduce greenhouse gases can be proposed and a possible solution will emerge.

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Chapter 3

Colonial Leaders: The Northeastern Approach
(Regional Greenhouse Gas Initiative)

The Northeastern United States is a region of the country often characterized by its rich colonial history, famously liberal politicians, small geographic size of its states, and seemingly continuous transportation and development infrastructure that stretches down the Atlantic seaboard. The region is home to many of the United States' largest cities, busiest ports, and international business headquarters. It comes as little surprise that the first regional greenhouse gas reduction policy emerged in this environment where both public officials and public sentiment converge to the left of the ideological spectrum and where the urban and suburban sprawl represents a major source of greenhouse gas emissions. New England's Regional Greenhouse Gas Initiative (RGGI, pronounced "Reggie") provided the model that sparked the interest in regional emissions reduction policies, and its current implementation is the best case study to investigate the possibility of expanding regional plans as a uniquely American solution to climate change.

History and Context

In the face of federal inaction on climate change, President George W. Bush's distaste for pricing carbon, and the collapse of U.S. involvement in the Kyoto Protocol, the governors of New England took bold action on the global warming front. In 2003, Republican New York Governor George Pataki invited the New England states to work together in order to develop a cap and trade regime to limit the emissions of fossil fuel-fired power plants in the region.[1] By late 2003, state officials had come together, along with representatives from the business, energy,

and environmental communities, to structure a regional program that would become known as RGGI.[2]

RGGI was promoted as a means to bolster national security by decreasing dependence on foreign oil and to create incentives for the development and deployment of energy efficient technologies – all while combating New England's contributions to global climate change.[3] With these goals in mind and a long process of developing a policy, the governors of seven states (Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont) signed the first Memorandum of Understanding (MOU) on December 20, 2005.[4] Following the election of Governor Deval Patrick in 2006, Massachusetts signed onto RGGI in January 2007.[5] By the time the MOU had been amended twice, Rhode Island and Maryland had also joined RGGI,[6] creating a continuous spread of Northeastern states under the cap's umbrella by April 2007. When RGGI fully launched in 2009, all ten states made history by being part of "the first public sector CO2 emissions trading scheme in North America."[7]

Policy Basics

As the nation's first operational cap and trade regime, the policy mechanisms utilized by the RGGI regime are an important starting point for policy researchers. As described in Chapter 2, the details of RGGI will be explored in order to understand how the system functions and to draw contrasts with the other plans. Refer to Appendix II for a summary of these basic mechanisms.

Coverage

RGGI caps the carbon dioxide emissions from fossil fuel-fired electricity generating plants that have a rated capacity of 25 megawatts or higher.[8] This cap covers nearly 95% of all CO2 emitted from the utilities sector in the region.[9] Notably absent from the RGGI cap are other anthropogenic greenhouse gases emitted by power plants and other sources, along with the lack of regulation on the transportation and industrial sectors. While RGGI certainly takes its place in history as an example of a cap and trade system, the other regional plans and most federal proposals have all called for a broader scope of sectors and gases.[10] The limited coverage of RGGI raises doubts about its ability to be administered as a model for the nation *or* as a model for a national rollout of regional initiatives.

Goals and Enforcement

RGGI aims to stabilize CO2 emissions through 2014 and reduce the region's output by 2.5% annually until 2018 – resulting in a 10% overall decrease.[11] According to the MOU, this goal will be accomplished on a state by state basis under which each state is required to institute a cap and trade regime through either legislative or regulatory means that is in line with the RGGI agreement.[12] The guidelines for each state are laid out in the Model Rule, which is intended to give states flexibility in the specific design of their individual programs.[13] The Model Rule details the provisions necessary to reach the targets and create a workable framework across the region.[14] RGGI's state-by-state enforcement mechanism raises serious questions about accountability among states, the cooperation of legislatures, and the impact of electoral volatility. These issues will be discussed in greater detail in the following pages.

Cap Determination

Each state is allocated a certain tonnage of carbon dioxide emissions through the Memorandum of Understanding in the form of emissions allowances (or permits) that each represent one ton of emitted CO2.[15] Every state's cap, along with the regional cap, is subsequently reduced by 2.5% annually after 2014.[16] Cap determinations for each state were based on the status quo of emissions, which is largely affected by state size, population, and energy usage.[17] One of the greatest weaknesses of this system is the fact that the cap promotes alternative energy production but does not immediately retire allowances in order to reduce CO2 emissions. Because the number of allowances is on a fixed schedule, any additional energy produced without CO2 opens up allowances for dirtier generators. Effectively, this deficiency slows the potential speed at which emissions reductions can be achieved.[18] One proposed solution to this dilemma is to allow permits to "be retired in an amount equivalent to the avoided CO2 emissions resulting from voluntary purchases of qualified renewable energy."[19] Retiring allowances, or allowing them to expire without reintroduction into the cap, would allow companies that shift toward renewable energy to maintain a market advantage by reducing the overall cap and preventing competitors from taking advantage of excess permits. The implementation of such a system may be critical for truly harnessing the power of the market to reduce CO2 emissions.

Permit Allocation

Each state makes its own decisions about how to allocate its permits, and each auction market is similarly administered at the state level.[20,21] The governors and stakeholders who designed RGGI saw the value in auctioning allowances for both economic and environmental

purposes. The states have committed to auction the majority of permits within the cap, with approximately 85% auctioned from the beginning of the program and an ultimate goal exceeding 90%.[22] Some RGGI states have already promulgated rules to auction 100% of their allowances in order to maximize efficiency and revenue.[23] Each state holds its auctions quarterly with a single round, sealed bid, uniform price format.[24] All allowances are tracked by an online system called RGGI-COATS that records the information from each state and publishes public reports.[25]

RGGI states have taken the concept of auctioning permits very seriously. The greatest concern about free allocation of allowances is the possibility of a windfall for large polluters that would avoid the toughest adjustments; such a result would defeat the purpose of the cap and trade system by rewarding the heaviest CO2 emitters and granting them a market advantage rather than an incentive to change.[26] Conversely, by auctioning the permits, all parties have uniform access to the market,[27] which forces the heavy polluters to compete and join in reducing CO2 emissions in order to remain economically competitive.

Aside from the clear benefits that auctioning provides in terms of encouraging pollution abatement, the revenues produced go to the state government and can be allocated to important programs that advance the mission of RGGI. In fact, the revenue from RGGI auctions reached a total of $729 million for all ten states by December of 2010![28] Massachusetts alone pulled in $15.3 million in March 2009 with the price per allowance at $3.51.[29] Massachusetts, Vermont, New York, Rhode Island, Connecticut, and Maine have all publicly committed to auction 100% (or nearly 100%) of their allowances in order to support so-called consumer benefit programs.[30] These commitments – whether simply a public promise or a statutory requirement – can lower electricity demands, reduce compliance costs, and save money for consumers.[31] These revenues,

along with the associated incentives to reduce pollution, make the auctioning of permits through RGGI a major benefit and success of the program.

Revenue Reinvestment

Regardless of what total percentage of state permits are auctioned versus freely allocated, the RGGI MOU *requires* that at least 25% of emissions allowances be auctioned so that revenues may be directed toward public benefits such as energy efficiency, renewable energy investment, and electricity ratepayer subsidies.[32] Reinvesting auction revenues into consumer benefit and energy programs has a number of benefits to the region, including: a decrease in emissions by reducing energy demand from fossil fuels, lower energy bills due to investments in energy efficiency, an increase in green energy jobs, an economic return of $3-4 for every $1 reinvested in energy efficiency, and an increase in research, development, and deployment of new energy-producing technologies like wind, solar, and geothermal power.[33] Some states are also investing proceeds in direct relief to low-income families to mitigate the economic predictions and concerns of higher energy bills[34]; such a "cap and dividend" approach may make these plans more palatable to economists, politicians, and social advocates seeking to prevent economic distress on individuals and families.

Each state has taken a slightly different approach to the reinvestment of its auction proceeds. Overall, states are investing 60% of auction revenues to energy efficiency programs and another 10% toward renewable energy projects.[35] Some states (CT, ME, RI, VT, MA) have statutory requirements that direct their revenues toward specific programs.[36] Massachusetts directs 80% of its revenue toward energy efficiency programs while Vermont mandates that 100% of auction proceeds go toward consumer relief in an effort to minimize financial gains to

power generators and to optimize revenues.[37] Maine has instituted a program called "RGGI Relief" which directly subsidizes a portion of monthly utility bills for ratepayers in order to lessen any economic disadvantage to consumers.[38]

It is easy to imagine that the reinvestment of auction revenues is a central component to any cap and trade program. The 25% mandate and individual state creativity of RGGI provide a good example of how such a system can work. At the national level, it would likely be the case that such reinvestment would become a major political struggle to benefit each legislator's region of the country. Under regional plans, however, these revenues can be directed to those programs and individuals in the most need on a state-by-state basis. Coupled with public benefit programs, these large sums of money have strengthened RGGI's policy structure and helped to achieve the environmental goals of the Initiative.

Offsets

Offsets are a significant part of the RGGI agreement that provide some flexibility for utilities to attain their required emissions reductions. Each offset represents the "sequestration of one ton of CO2 or an equivalent reduction in emissions of CO2 or another GHG."[39] Each offset must meet a strict set of requirements in order to be credited as an allowance. The offsets must also be located *outside* of the electricity/utility sector,[40] and offsets must be "real, additional, verifiable, enforceable, and permanent."[41] The key part of a successful offset is additionality, meaning that any offset cannot be already required by law, regulation, or judicial/administrative order and may not receive an existing state incentive.[42] This requirement forces utilities to invest in *new* pollution abatement that would otherwise not exist. This approach strikes the balance of allowing flexibility while still advancing the aims of the RGGI system.

The offsets may be found in any RGGI state or any U.S. state or jurisdiction that has entered into the MOU with RGGI to carry out offsets.[43] Initially, offsets were allowed outside of the signatory states at half-credit, meaning that it took two tons of abatement to receive one offset credit.[44] However, the first amendment to the MOU changed this requirement to the current policy, but since no non-signatory states have entered into the MOU with RGGI, only RGGI states can currently contain offsets.[45] After meeting these requirements, each offset proposal goes through an eligibility assessment and undergoes annual monitoring and verification to ensure that the predicted greenhouse gas abatement is occurring.[46]

Under RGGI, offsets can only make up 3.3% of total emissions reduction obligations.[47] However, policy triggers have been put in place that would allow the expansion of offsets to 5% or 10% of the RGGI balance if the program becomes too heavy of a burden on businesses.[48] Under this system, if the price of each allowance reaches a certain threshold ($7.00 in 2005$) for twelve continuous months, the offset balance increases to 5% with a similar trigger of 10% at $10.[49] This provision of the MOU was likely included to ease the concerns of business leaders in the Northeast. If the economic consequences of the cap and trade system became too heavy for those being regulated under the scheme, this added compliance flexibility would protect businesses from being economically disadvantaged and prevent either a spiraling economy or the dissolution of RGGI itself.

Offsets create one major concern for the success and goals of a cap and trade system. Allowing offsets somewhat entitles existing polluters to maintain the status quo rather than actually decrease emissions.[50] By sending the market a signal that polluting is still acceptable (as long as a company can buy its way out of compliance), it allows a continuation of pollution-based market externalities. This process can be seen as applying an ineffective and purchasable

"bandaid" to the problem rather than requiring the "therapy" necessary to fix the destructive behavior of greenhouse gas pollution.

Other Policies

A number of other policy details help cushion businesses against the potential economic impact of RGGI. The MOU provides for the unlimited banking of allowances, which allows polluters to carry over excess permits into the next compliance period in order to provide price stability and an incentive to hedge future emissions uncertainty.[51] Early reduction allowances (ERAs) are also offered as one-time awards that allow a state to emit one extra ton of CO2 based on previous emissions reductions.[52] ERAs were included in an effort to spur states to take action in advance of RGGI's launch in order to decrease the incentive to *wait* for the program to begin before reducing emissions.[53] These pieces of the RGGI design allow more flexibility for businesses and provide a set of policies that would be necessary to appease big business interests at the national level. Such policy caveats are common among regional cap and trade plans, and they are likely a political and economic necessity in order to garner support from the business community.

Observers vs. Signatories

One final aspect of the RGGI design is the designation of signatory versus observer states. Signatory states include the ten states currently operating under the cap and trade policy that have signed the MOU. Such signatories are allowed to withdraw from the MOU with thirty days of written notice,[54] which certainly raises concerns about electoral volatility and partisan flips in the governors' mansions. Pennsylvania is the only observer state in the RGGI system,

meaning that it participates in discussions but does not have a cap and trade system in operation. This is likely due in large part to Pennsylvania's size and reliance on coal-powered electricity. Pennsylvania's reluctance to fully join RGGI demonstrates major limitations of the RGGI scheme for national implementation. Because RGGI focuses so heavily on fossil fuel-fired plants, those states in the coal-intensive Rust Belt will face staunch opposition and large economic consequences that many New England states do not encounter. If RGGI wants to gain Pennsylvania as its eleventh signatory, new policies may have to be added in order to assure the governor of Pennsylvania that RGGI will not wreak havoc on his/her state's economy (not to mention gubernatorial approval ratings).

Such coal-sensitive policies would be an essential part of any national cap and trade program. However, major concessions to the coal industry would weaken the ability of Northeastern states to take a hard stance against fossil fuel-powered plants. This dichotomy presents another compelling argument for taking a regional approach to cap and trade policies. This would allow those regions less dependent on coal to be more aggressive at decreasing emissions while permitting other regions to tailor their policies to tackle coal in an economically viable manner. A single umbrella may effectively neuter a comprehensive approach by mandating too many coal-like concessions to each region of the country based on varying energy portfolios.

Politics

The Northeastern political scene is often counterintuitive. Because the region is one of the most ideologically liberal parts of the United States, Republicans and Democrats both tend to have progressive stances on energy and environmental issues. However, consensus about the

existence of climate change and the need to combat it does not produce a uniform political response. Shifts in electoral politics and the associated priorities of regional politicians can have an important impact on the viability RGGI. Additionally, state issues can be carried forth to the U.S. Capitol by politicians seeking to advance the successes of RGGI on a nationwide scale.

Implementation

As previously discussed, the MOU requires states to individually take on the responsibility of implementing RGGI through either legislation or executive regulations. Enshrining RGGI in the statutes is clearly a more permanent route that avoids many of the pitfalls that can occur with controversial executive regulations when the power shifts in the governor's mansion. Some states have taken especially strong stances, including Maryland, which passed the Healthy Air Act of 2006 that required the governor to sign the MOU and include the state in RGGI.[55] Similarly, Vermont has written its involvement in RGGI into the statutes and included the mandatory reinvestment of 100% of revenues toward consumer benefits.[56] However, the implementation varies by state with each relying on the Model Rule for guidance. This is largely a product of political variation. Some legislatures and governors are more politically in sync than others, making legislation and executive regulation appropriate in different states depending on the circumstances. For those governors who enjoyed the political support of their legislatures during RGGI implementation, statutory action was within reach and served as a more permanent option for enactment of the program. For those governors who may have faced opposition in the state legislature, however, issuing executive regulations by using existing law and authority within state agencies was the more practical route in order to enter the program and begin trading.

Electoral Volatility

In Chapter 2, the possibility of electoral uncertainty upending regional cap and trade plans was explored. RGGI certainly faces these issues, and the plan is especially vulnerable in states where the Model Rule has not been codified into law. With the MOU's provision that allows states to remove themselves from the pact within thirty days,[57] changes in electoral and partisan control can clearly have major and immediate impacts on RGGI's solvency. Hostile governors and legislatures, combined with the potential for an angry public, may be the sleeping giant that could unravel the reduction agreement in the Northeast.

The passage of Maryland's Healthy Air Act mandated the governor's immediate participation in RGGI in 2006, but the law does not forbid future withdrawal. However, the law does require the governor to present the General Assembly with an alternative plan to reduce CO2 from electric utilities should he choose to back out of the regional pact.[58] Even with this caveat, however, the act makes it much more difficult for a more conservative governor to simply abandon climate change mitigation in the state. Unfortunately for RGGI, not all states have instituted such powerful laws. Contrarily, New Jersey's Republican legislature has introduced a bill to ban the state from participating in RGGI. The hope is that Republican Governor Chris Christie will demonstrate his conservative credentials and remove the state from the program.[59] While he has yet to take a position, the influence of his political party could pave the way for the first anti-RGGI law in New England and could spur similar bills if New Jersey came to be seen as a free-rider gaming the system. Under such a scenario, nearby states may fear that New Jersey will reap the climate change benefits and the possible increase in economic competitiveness that comes with deregulation at the financial expense of its neighbors.

The 2010 elections were widely beneficial for conservative Republicans who are traditionally opposed to global warming legislation. The ascendance of Paul LePage to the governor's mansion in Maine could be a major impediment for RGGI. Similarly, the power of more conservative legislatures has already been on display in New Jersey and could play a significant role if the legislators in other New England states begin to take a hard line against the regional pact.

The state-by-state nature of RGGI exposes it to electoral volatility problems that a national plan would be able to avoid. However, the provisions that require individual states to approve the pact on their own may be a way to prevent the total collapse of the system. In the regional framework, some assurance exists in the form of individual statutes in various states that can provide some semblance of long-term security for the climate change pact. Conversely, at the national level, if a federal cap and trade plan fell out of favor with the public, the president, the Congress, or the Supreme Court, the entire regime could crumble in one fell swoop (whether by defunding it, ruling it unconstitutional, or pushing for a repeal). The fallout from a collapsed national plan would likely be a complete lack of reengagement by the states; however, in a decentralized format, the dissolution of a few states' participation does not spell the end for a region-based American cap and trade system on the whole. Along this reasoning, the individual legislation and regulations can provide a buffer for the long-term solvency of the entire program.

Fiscal Benefits

Despite pressure from politically conservative factions, there are reasons for governors (especially conservatives) to stay active in RGGI. The fiscal benefits of auction revenue provide a political treasure trove of money for politicians struggling to balance their state budgets.

Because many governors are required by law to balance their states' budgets, and because many governors tout their fiscal credentials, the excess revenue generated from participation in RGGI can come in handy on a rainy day.

As previously discussed, most states have chosen to direct the majority of auction proceeds toward consumer and environmental benefits. However, the MOU allows each state to allocate 75% of its allowances in whatever way the government sees fit.[60] The public commitments of those states not bound by statutory requirements to invest proceeds into relevant programs can be completely ignored when the state is under financial strain. This exact phenomenon was seen in 2010 when New York directed $90 million of auction revenues into its school districts, New Hampshire sent $3.1 million into its budget shortfalls, and New Jersey used all of its available funds ($65 million) to balance the state budget.[61] This money is present, convenient, and plentiful, which has created powerful temptations for cash-strapped governors during the economic downturn. This shift in resources converts RGGI into, essentially, a hidden tax on electricity, because the funds are used by the government for whatever purposes it deems necessary.[62] One possibility is that because states are so broke, stopping the RGGI program may become almost impossible for state politicians seeking to retain the fiscal buffer.[63]

The political implications of this excess money coming from RGGI auctions are enormous. New Jersey's Republican governor has shown that, despite his legislature's desire to secede from RGGI, auction proceeds are an incredibly convenient pool of extra funds that he may find necessary for his own political career as a budget-balancer. In fact, "some experts note that the availability of RGGI money to help states deal with their economic woes may be the very thing that saves the Initiative and similar accords."[64] This trend is concerning for those advocating for clean energy investment and energy efficiency projects; however, the possibility

that these cap and trade programs have a secret hook that ties traditional opponents to them in the form of extra money may be a blessing in disguise. While the core mission of the pact is diminished, the overall cap is preserved and CO2 continues to be regulated in New Jersey and other states.

The political cover provided by discretionary RGGI funds is a double-edged sword. In order to maintain the integrity of the program, this misallocation of funds should be fixed, but the loss of discretionary revenue may reduce the incentive of conservative states and politicians to stay in the pact or even join at all. Without any national requirement that states participate in a federal or regional emissions reduction plan, the ability of states to cash in extra revenues for political and budgetary purposes may be a necessary evil of sustaining pacts like RGGI. By inadvertently taking advantage of the core values of fiscal constraint and "living within the state's means," RGGI has created a political bargaining chip with conservative governors that may prove important as RGGI and similar regimes move forward.

National Impact

The impact of RGGI on national legislators from New England has been particularly evident in the political stances of moderate, Northeastern Republicans. Specifically, the famously centrist Republican senators from Maine – Olympia J. Snowe and Susan Collins – have used RGGI as a key reference point for their positions and preferences regarding national cap and trade regimes considered in the U.S. Senate. In 2009, Senator Snowe cited RGGI as an effective and successful template as she pushed for a power sector-only cap and trade policy rather than the economy-wide approach preferred by most Democrats.[65] Similarly, she praised the energy efficiency investments of the RGGI plan in Maine and referenced discussions with the

Obama Administration regarding how to implement the RGGI experience into any national plan.[66]

Senator Collins likewise used a major part of RGGI in her cap and dividend approach to a national plan. She cosponsored the bill discussed in Chapter 2 with Senator Maria Cantwell (D-WA)[67] which would institute a structure similar to the "RGGI Relief" program in Maine. The rebates to ratepayers to avoid economic hardship are central to the cap and dividend approach and are a good talking point for conservative members concerned about fiscal and economic impacts of a cap and trade policy. By relying on RGGI experiments in her home state, Collins could demonstrate examples and evidence of success for a cap and dividend style policy.

RGGI's influence on national legislators is important for the possibility of a national plan. Incorporating the positive results from the Initiative could garner the support of New England Republicans and provide reassurance to uneasy legislators from other regions of the country. However, even with Snowe's utilities-only approach and Collins' cap and dividend proposal, the U.S. Senate was unable to pass a comprehensive, national climate change mitigation bill. If the experience of regional plans cannot properly inform the debate enough in the halls of the Capitol to create an acceptable bill, perhaps the plans themselves should shift away from serving as policy informers and embrace the concept of bulking up and serving as the American approach to climate change at a regional level.

Economics

RGGI has been subject to a number of economic attacks, inquiries, and analyses since its inception. As the first cap and trade regime in the nation, many of the economic concerns

expressed by politicians and policy analysts have been investigated using the RGGI example. The results of these reports have implications for regional plans across the United States.

Predictions and Reports

The specter of economic consequences prompted a series of economic analyses and reports to predict the impact of RGGI on businesses and consumers in the Northeast. In 2004, before RGGI was implemented, Charles River Associates, Inc., a consulting firm that provides economic modeling assistance to industries, firms, and governments, produced a predictive report for how a utilities-only cap and trade regime would affect the economy of the region. Their report was based on the provisions of the McCain-Lieberman climate change bill being discussed in Congress at the time and resulted in negative impacts across the board.[68] The report predicts an increase in electricity prices, a decrease in jobs, a decrease in regional economic output, and a decrease in electricity output.[69] The report specifically discusses the potential for disproportionate effects on the poor and elderly and highlights an overall decrease in purchasing power due to lower household incomes.[70] This report undoubtedly served as a major source of concern for business leaders and politicians, yet its scope and applicability was limited due to the fact that it was not based on any of RGGI's specific policies. The report, however, was only the first of many after the RGGI model came out in more detail.

The most comprehensive report was a REMI model carried about by the Economic Development Research Group in April of 2006. This model is based on the actual provisions of RGGI and includes a general economic forecast, policy implications, and population trends.[71] The model included Pennsylvania, Maryland, and Washington D.C. as if they were all full participants (Maryland had yet to sign on).[72] Pennsylvania was especially important because its

significant coal-fired energy generation makes it a potential state to export energy *into* RGGI signatories; consequently, the model includes Pennsylvania in an effort to control for the possibility of emissions leakage.[73,i] The report produces much more reassuring results for policymakers and regional business leaders. While the overall model predicts a *small* negative economic impact (a two or three-hundredths of a percent decrease on gross regional product, personal income, and employment), the benefits from reinvestment in clean energy and efficiency programs supersede the negative impacts and push the results to the positive side of the spectrum.[74] In addition to a positive impact thanks to reinvestment, RGGI is predicted to bring over 4,000 jobs to the region.[75] Assessments carried out by RGGI administrators predict that residential consumers could face a mere seventy-three cent increase per month on their utilities bills, which would be consequently offset by the decrease in electricity demand due to energy efficiency investments.[76] These results would indicate that the dire predictions regarding RGGI and the economy are grossly overstated, and they provide ammunition for climate change legislation advocates to pursue the idea that minimal or no pain will be endured by a carbon-capped economy.

State Economic Findings

The table below summarizes RGGI-related economic predictions and findings on a state-by-state basis. The resulting trend is clear: RGGI has been predicted to invoke minimal harm to regional economies, and the evidence after implementation has followed these predictions.

[i] The concept of emissions leakage will be described later in this chapter.

State by State Economic and Consumer Impacts of RGGI

State	RGGI-Related Economic Predictions and Reports
Maine	Prediction: 1.5% increase (or $15.00) on annual utility bill of average resident. Recall: "RGGI Relief" program issues rebates to consumers to offset cost increases.[77]
Maryland	Predictions: In concert with other greenhouse gas reduction laws in Maryland, electricity demand will decrease overall, state economy will face a slight positive impact, and ratepayers' prices will be minimally affected.[78] Electricity bills are expected to decrease by over $100 million by 2010 and more than $200 million by 2025 due to electricity efficiency investment; consequently, ratepayers will see about $22.00 in savings in 2010.[79] Overall RGGI impact will grow the Gross State Product by $200 million and create approximately 2800 jobs by 2025.[80]
New Hampshire	Prediction: Long-term finding that costs of energy will decrease.[81] $4 million in benefits in 2009 and $10 million by 2018.[82] Model: If 100% of auction revenue goes toward consumer rebates, customers on the PSNH grid would see only a $1.30 increase by 2018 and other consumers would see $4.27 in savings by 2018.[83] Model: If 100% of auction revenue goes toward energy efficiency, all consumers would see savings by 2018 between $1.37 and $1.70.[84]
New York	Results: Increase of 72 cents per month on average utility bill; has been almost invisible to consumers due to energy efficiency investments and cheaper fuel.[85]
Rhode Island	Prediction: modest increase in cost of doing business due to electricity price increases. Rise of only 0.0004% on average business operating costs, with the worst case prediction being an increase of 0.26%. These figures do not take into account any benefits from energy efficiency investments.[86]

Table 3-1.

While many of these predictions and results are small, there is an obvious lack of overall negative results. These findings combat the arguments of cap and trade opponents concerned with economic downfall.

Race to the Bottom Concerns

As described in Chapter 2, concerns regarding the possibility of a race to the bottom and the emergence of free-riders are a major source of contention within the RGGI opponents' camp and a significant political risk for policymakers. Recall that Governor Paterson (D-NY) considered withdrawing from RGGI due to such concerns[87] even though New York was the

initiator of the RGGI program. The question that must be answered by New England politicians is whether or not existing businesses and generators would relocate or new ones would choose *not* to locate in RGGI states due to the cap and trade policy. The potential implications for economic development and energy generation are enormous. The government of New Hampshire took on the race to the bottom concept and found that the minimal impact of RGGI on the bottom-line of businesses, combined with the high costs of relocating, would not be enough to directly impact decisions about location. A state report on the impacts of RGGI contends the following:

> The economic factors for siting [a] new generation facility will be far more dependent on factors other than RGGI, such as the ease of siting and permitting, location of fuel sources, transportation costs of fuel, and construction costs. RGGI is expected to only add 1 percent to 3 percent to the wholesale cost of natural gas electric generation, while other factors such as fuel costs and capacity costs are far more significant in the consideration of building new generation. For the same reasons, it is also considered unlikely that New Hampshire not participating in RGGI would result in significantly increased construction of new fossil fueled plants in New Hampshire.[88]

Ultimately, the economic decisions of a business or generator are too multifaceted to be so causally linked to the cap and trade program. The race to the bottom concerns are certainly an easy target for skeptical politicians and business leaders, but the evidence does not suggest that RGGI has, or will have, such an impact on the Northeast's economy or energy generation. The lack of evidence for the race to the bottom further opens up the possibility for an effective regional approach to cap and trade legislation in the United States without fear of major economic destabilization by the creation of multiple, individualized regimes.

Business Leader Concerns

In reality, the monolithic term of "big business" does not accurately reflect the diversity of business interests relating to a cap and trade system like RGGI. Like any subset of the

population, businesses and business leaders vary in their needs and concerns, and the ability of policymakers to placate business leaders hinges on the capacity to find compromise *or* to craft a coalition of supportive businesses while leaving others out to dry. The response to Connecticut's proposal to auction 100% of its allowances is a good case study to examine the varying interests relating to business leaders and the impacts of a cap and trade system. While the state was considering the move toward a 100% auction system, it accepted comments and suggestions from many businesses and associated interest groups that demonstrate how variable the response to environmental and energy regulation can be.

Traditional energy producing and consuming interest groups fell squarely against the proposed auction plan. The Connecticut Business and Industry Association expressed concern for high ratepayer prices and requested that Connecticut auction only the required 25% of allowances; this approach may have been an attempt to scare politicians into protecting ratepayers and thereby protect CBIA interests.[89] The Connecticut Industrial Energy Consumers similarly lodged concerns for consumers and encouraged an exemption for consumer-side electricity generation.[90] Lastly, the Public Service Electric and Gas Company (PSEG) warned that a 100% open auction would hurt market reliability, increase electricity rates, exacerbate leakage, and increase the transportation of pollutants between states.[91] Their dramatic suggestions seem to play especially into the environmental goals of policymakers. PSEG also suggested a more moderate approach that would be easily merged with an incoming national approach – which they predicted would <u>not</u> auction all of its permits.[92] All of these organizations pushed Connecticut lawmakers to avoid a 100% auction for their own benefit, but they also found ways to spin the issue as a consumer protection and environmentally conscious move, as well.

On the other side of the issue, however, were many Connecticut energy interest groups and companies involved with renewable power. These groups represent a hybrid of both "business interests" *and* environmental interests. The Business Council for Sustainable Energy and the Connecticut Clean Energy Fund both advocated for 100% auctions because such a system would benefit their businesses by redirecting funds into the renewable industry.[93] Similarly, the Clean Energy Fund pointed out that an auction would be more morally respectable by preventing windfall profits for fossil fuel-powered generators.[94] Meanwhile, the Pace University Law School Energy Project encouraged auctions in order to spur change in the way traditional businesses view pollution.[95] The Energy Project contended that allowing free permits would create a pollution subsidy and advance the current mindset that pollution is simply another cost of production.[96]

Connecticut's experience makes it clear that there are conflicting pressures coming from the business community regarding RGGI, which makes it remarkably more difficult for policymakers to "do what is best for business." Without a uniform voice from the energy sector, policymakers have some leeway in deciding which industries to support when crafting cap and trade programs.

Costs of Abstaining

While the majority of economic justifications for joining RGGI include a positive economic impact, reinvestment into alternative fuels, moral and political responsibility, and a leg-up on any incoming national plan, there are other rationales for states to sign on that focus on the potentially negative impacts of avoiding the cap. New Hampshire and Maine have both produced reports explaining that state energy prices will increase regardless of whether or not the

state joins the RGGI program.[97] The ability to use auction revenues to offset these costs is a key reason to take part in the program rather than facing the increased regional energy prices without the respite provided by the allowance market. New Hampshire contends that because utilities purchase power across the region, the increased price of power coming from RGGI-states will be passed onto the consumers regardless of whether a state is participating.[98] In this sense, trying to stay out of RGGI and be a free-rider may result in a negative impact on state ratepayers and businesses rather than providing a competitive advantage. Since many states have electricity grids that cross state lines, the cost of staying out of a regional cap and trade plan could result in a net impediment to competiveness rather than a competitive boost. This downfall of the free-rider mentality would extend across the United States in a regional pattern under any decentralized regime.

Regional Specificity

Because the Northeastern United States is so heavily populated and has limited onshore wind and solar energy resources, the major renewable resource currently in use in the area is woody biomass[99] from the densely forested northern region. RGGI allows CO2 emissions from "eligible biomass" to be deducted from a unit's compliance obligation.[100] Such biomass is carefully defined to avoid ecologically important habitats such as old-growth forests,[101] but it nonetheless remains as a special treat for Maine, New Hampshire, and Vermont's bountiful vegetation. The Model Rule does not, however, include any specific tax incentives for other renewable energy sources. Such region-specific incentives may be best dealt with on a state-by-state level, since each state will contain a different subset of the region's renewable resources. Regional specificity within the RGGI plan does not seem to be a central tenet of the pact.

However, considering the limited natural resources uniformly available in the Northeast, this comes as little surprise. It is possible that the utilities-only approach itself is a regionally specific concession since most of the heavily populated region would have been more hesitant to cover transportation and other industries that may have taken a larger economic toll on the region.

Limitations

For all of its groundbreaking accomplishments, RGGI has a number of limitations, as well. Notably, it only covers a small portion of the United States' enormous area and emissions totals. However, there are a few other major deficiencies in the program itself that must be worked out in order to maximize its effectiveness and create a stronger model for either national or subnational emulation.

Scope

Likely the largest limitation of RGGI is the limited scope of its cap. Governor Pataki's letter to the regional governors in 2003 only called for a cap on the utilities sector, but under this structure, RGGI only covers 28% of the CO2 emitted by the region.[102] By regulating only the CO2 emitted from fossil fuel-powered electricity generators, a huge portion of the Northeast's greenhouse gas emissions are going completely unregulated by the Initiative. While the New Hampshire Department of Environmental Services defends the scope of the cap by saying that CO2 alone accounts for 80% of climate change pollution, with the power sector as the largest source of industrial emissions (38% of U.S. greenhouse gases), the RGGI cap must be expanded to a more economy-wide scope in order maximize its impact.[103] In fact, Maryland's Healthy Air Act (mandating participation in RGGI) recognizes that RGGI alone is not enough to combat

climate change in the Northeast. The law includes state reduction requirements for other greenhouse gases in order to make up for the limited scope of the RGGI cap.[104] In reality, the power sector is behind the transportation sector in the Northeast for CO2 emissions.[105] It is apparent that the transportation sector must be aggressively tackled due to the sprawling urban stretch of the Northeast in order to take on the region's climate change contributions.[106] While RGGI has the most robust experience as an American cap and trade system, the relevance of the Initiative as a model carries this major deficiency when considering a broader national, or more aggressive regional, approach to tackling American emissions.

Carbon Leakage

One of the major concerns with a regional approach to climate change mitigation is the loss of environmental impact due to carbon leakage. An article in *Environment Magazine* describing RGGI to the citizens of Maine aptly describes the concept of emissions leakage and the associated problem for RGGI's goals:

> Leakage occurs when electrical generating plants outside RGGI sell power to RGGI states, incurring no costs of compliance. RGGI modeling forecasts that, in the absence of controls on leakage, imported power could expand greatly, negating 40 percent or more of the emission reductions from RGGI. Such a result would effectively prevent RGGI from reaching its goal of cutting emissions 10 percent by 2019. Because CO2 emissions are a global problem, shifting the location of emissions would undermine the program and provide no benefit to the climate. Thus addressing leakage issues is an implementation priority.[107]

Without a doubt, tackling the issues associated with carbon leakage is an important task, and the potential presence of this phenomenon could be catastrophic to the success of regional plans.

Modeling work done by Yishu Chen has demonstrated that CO2 leakage could offset more than 80-90% of emissions reduction goals under certain circumstances.[108] Chen admits to certain biases in his modeling, yet he astutely points out that RGGI does not account for the

importation of electricity from unregulated Ohio, and he includes the leeway given to Pennsylvania generators as an observer state in his models.[109] The question following Chen's modeling is whether or not the revenue generated through auctions and reinvested into research, development, energy efficiency, and alternative energy may be enough to offset an inefficient system. Such investments, even if the cap is not operating properly itself, could put the region on a path toward a cleaner energy portfolio even with a dysfunctional cap and trade system.

RGGI has recognized the possible limitations of the system in the face of carbon leakage. RGGI's report on the issue states that environmental benefits could be undermined and that leakage issues specifically affect regional programs that do not cover the entire electricity market.[110] RGGI, Inc. has released a document proposing to investigate the prevalence of such leakage and come up with solutions if leakage proves to be a major factor in the functioning system.[111] The specter of carbon leakage will be one of the most condemning factors to the possibility of of a national set of regional plans. If regional plans find ways to link together in order to address such leakage or deal with these problems internally, a regional approach is still within reach.

Pennsylvania

The black sheep of the RGGI family is Pennsylvania – the sole observer state in the pact. Pennsylvania's size and heavy reliance on coal[112] are the most likely reasons for its insistence on remaining apart from the binding cap. As a model, RGGI must find a way to get Pennsylvania on board to expand its influence, decrease the likelihood of carbon leakage, and show that it can operate in coal-intensive states. Luring in Pennsylvania may prove to be an impediment to the environmental goals of the Initiative if RGGI is forced to slacken its standards on fossil fuel-

powered plants to obtain Pennsylvania's full participation. Therefore, a different possibility would be for RGGI to shed Pennsylvania and allow it to engage in talks with more similar, coal-minded Rust Belt states. Regardless of its position, Pennsylvania's governorship shifted into Republican hands in 2011 and the likelihood of the new administration to join RGGI is low.

Recent Advances

One important step forward for RGGI was the announcement of a Memorandum of Understanding among the ten RGGI states and Pennsylvania in December of 2009 to establish the Northeast Mid-Atlantic Low Carbon Fuel Standard (LCFS).[113] This LCFS, initiated by Massachusetts Governor Deval Patrick, is the first step toward a market-based approach to improve the environmental quality of fuel for the bustling transportation sector that plagues the region and emits copious amounts of greenhouse gases.[114] Initial benefits beyond reducing carbon content in fuels could include creating new jobs and spurring innovation in the fuel sector.[115] While not part of the cap and trade program explored in this project, the LCFS in the Northeast is an important addendum to RGGI which will help strengthen the limited scope of the Initiative.

Lessons

The most important lesson from RGGI is that the Initiative proves that states can come together, craft a cap and trade policy, and see it through to implementation. While the limited, non-economy-wide scope of RGGI and the potential for emissions leakage are serious concerns, the benefits of the program found in emissions reductions and revenue reinvestment are promising signs for the future of American emissions reduction policies. Similarly, with

economic models forecasting modest gains in economic output in the Northeast, many concerns about the feasibility – both politically and economically – are disarmed by the success of the program. RGGI exemplifies interstate cooperation and serves as the poster-child for a successful region-wide regulatory policy. With a few policy tweaks, an expansion of coverage, and solutions to a couple of major policy concerns, RGGI could become a model for either a national plan or a series of subnational approaches.

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Chapter 4

Tackling the Frontier: The Western Model
(Western Climate Initiative)

The Western United States is an expansive tract of land that includes glaciers, deserts, temperate rainforests, mountains, canyons, and coastlines. The "American frontier" is also home to a variety of political constituencies, ranging from the reliably Democratic West Coast to deeply conservative states like Utah and Idaho. A sense of new beginnings has made the West a home to bustling rural and urban communities, and a deep admiration for its scenery has boosted its appeal to tourists from across the country and around the world. As always, economic growth has come at some environmental costs, and the iconic landscapes of the West are a prime target for the adverse affects of anthropogenic climate change. Following in the footsteps of RGGI, a group of Western governors designed a cap and trade program called the Western Climate Initiative (WCI) in an effort to take responsibility for greenhouse gas emissions and to protect America's frontier. This plan also extends into Canada and Mexico, thereby representing the first international cap and trade scheme proposed in North America. The remarkably diverse geographic, political, and economic characteristics of the Western United States (along with the international partners of WCI) pose challenges different from those faced by the Northeast. This new environment impacts the way in which a cap and trade program must be fashioned in order to operate effectively in the region. Certainly any national efforts to curb climate change must involve the West, but the question remains whether even a regional plan can adequately cover nearly half of the United States.

History and Context

Under the leadership of then-Arizona Governor Janet Napolitano, a series of Western states came together to establish the Western Climate Initiative on February 26, 2007.[1] The governors of California, Arizona, New Mexico, Washington, and Oregon initially joined as signatories, with Montana, Utah, Ontario, Manitoba, British Columbia, and Quebec signing on by September of 2008.[2] Six other states (AK, CO, ID, KS, NV, WY), one Canadian province, and six Mexican states have also joined the process as observers of the plan – making the Initiative a much broader coalition of subnational governments than RGGI.[3] As with RGGI, the creators of WCI expressly desire to inform the national debate on climate policy,[4] and many participating states, such as New Mexico, have indicated an ultimate preference for a federal, rather than regional, plan.[5]

The WCI policymaking process also included working groups of regional business and industry leaders. These groups often had the greatest reservations due to their likelihood of being regulated under a cap and trade regime.[6] Such stakeholders were engaged by policymakers in hearings where they could express concerns and recommendations to limit burdens on their industries. However, industrial and commercial stakeholders did not have any direct role in the final design recommendations; ultimate decisions were made behind closed doors solely between the state negotiators.[7] The subsequent cap and trade design summary was released on September 23, 2008,[8] with a target launch date of January 1, 2012.[9]

Policy Basics[i]

While all cap and trade programs are based on the same principles of a capped market with emissions priced and traded, the details of each policy can be substantially different. WCI

[i] Recall that all policy descriptions are based on design recommendation documents; WCI is not yet in operation.

differs in many ways from RGGI, including the scope of its coverage, its goals, its permit allocation mechanisms, its offset policies, and more. Understanding the basic provisions of the Initiative can better inform the debate on how to best craft a cap and trade policy, while simultaneously illuminating differences based on the unique needs of the region itself.

Coverage

One of the most striking differences between RGGI and WCI is the scope of their respective caps. WCI seeks to regulate six different greenhouse gases released from the following sources: electricity generated in and imported to the region, industrial and commercial facilities, oil and gas emissions, residential, commercial, and industrial fuel combustion, and transportation fuels.[10,ii] Similar to RGGI, WCI provides exemptions for some environmentally conscious energy production in the form of biomass and biofuels in order to help promote the transition to alternative fuels.[11] Such exemptions may be especially helpful for agricultural states, like Montana, and forested states, such as Oregon. Even with these exemptions, WCI will cover a startling 90% of economy-wide emissions through its multi-sector and multi-jurisdictional approach to cap and trade.[12] This is a marked difference from the utilities-and-CO2-only cap regulated under RGGI. This ambitious cap undoubtedly creates more intricacies to work through as the policy moves forward.

Goals and Enforcement

WCI plans to reduce greenhouse gas emissions to 15% below 2005 levels by the year 2020.[13] While this goal may seem limited, the inclusion of the entire economy in the cap may

[ii] The expansion to transportation fuels and residential/commercial fuels will take place in 2015. (*Design for the WCI Regional Program*. 8)

necessitate the more modest, yet more complete, target. As with RGGI, the Western Climate Initiative expects each state and provincial[iii] government to implement the cap and trade program through its own regulations. As discussed in greater detail in a subsequent section, the implementation through regulations and legislation has proven difficult for many governors and has left the long-term stability of WCI in question.

Cap Determination

The WCI intends to establish an appropriate cap to reach its stated goals and divide the allocations up on a state-by-state basis.[14] The initial cap will be based on best estimates of actual emissions from the regulated sources in the first year followed by gradual reduction over time to meet the 15% reduction goal.[15] These allowance budgets have yet to be released.

Permit Allocation

The design recommendations indicate that 10% of allowances will be auctioned during the first compliance period in 2012, with a minimum increase to 25% in 2020.[16] Each state is allowed to increase the percentage of its own permits allocated by auction at a faster pace, if desired.[17] The Initiative has a long-term goal to reach higher auction percentages across the region – perhaps even reaching 100%.[18] Ultimately, the decisions are left up to the states themselves,[19] which will allow for variation similar to that seen during the implementation of RGGI. The lower percentage of auctioned permits in WCI as compared to RGGI (10% vs. 25%, respectively) may be due in part to the size of the region, the scope of the cap, and the necessary

[iii] Throughout this chapter, participating provincial governments are implied when states are mentioned.

reliance on more fossil-fuel powered transportation and electricity generation to cover the larger geographic area.

Revenue Reinvestment

WCI lists a number of ways in which states can redirect revenues from permit distribution to enhance the mission of the Initiative and reduce the burden on the economy. The partners have agreed to direct some proceeds toward energy efficiency, renewable energy incentives, research and development for carbon capture and sequestration and renewable energy, climate change adaptations, and emissions reductions in agriculture, forestry, and other uncapped sources.[20] Remaining revenue can be directed toward reducing consumer impacts (especially on low-income families), providing worker transition programs, providing transition assistance to affected industries, recognizing early action, and other economic efficiency programs.[21] Without a mandatory percentage of funds moving into these programs and initiatives, WCI may run the risk of seeing governors use permit revenues to pad state budgets like some of their Northeastern peers. This problem may continue to be an issue unless accountability is enforced. However, as discussed in Chapter 3, the ability of governors to draw on excess funds may actually help the long-term stability of the Initiative due to its political and fiscal benefits to the governor's office.

Other Market Control Provisions

A series of other provisions have been included or mentioned in WCI documents that point toward efforts to control market inefficiencies and unfairness. One such plan is to reduce economic manipulation by certain powerful entities by limiting the number of allowances and

offset certificates one can hold.[22] This would extend to limiting the number of purchases in any one auction,[23] and it could prevent a few powerful entities from taking control of the market and hampering the goals of the Initiative. WCI has also proposed an optional mechanism to retire allowances in recognition of renewable energy purchases and thereby allow investments in clean energy to reduce greenhouse gas emissions under the cap.[24] This mechanism would prevent renewable energy investments from being useless for climate change, and it would help businesses by providing a market benefit for voluntary action in the form of increasing pressure on competitors (due to fewer permits).[25] Lastly, WCI has proposed flexibility provisions that would establish allowance reserves from which entities could borrow a limited number of *future allowances* during especially needy situations.[26] Similarly, a special purpose allowance pool may be established to target specific conditions that could affect the market or economy.[27] These rainy-day allowance pools are incredibly important because they can ameliorate some business concerns, protect the cap and trade policy from devastating the economy in a bad situation, and may even offer some protection for unforeseen climate-related events.

Offsets

The primary role of offsets is to reduce compliance costs while maintaining the environmental integrity of the cap.[28] The offsets under WCI have the same eligibility standards as those under RGGI[29] with slightly more restrictive reporting requirements.[30] Offsets are supposed to be within the WCI territory in order to bring the health, social, and environmental benefits of such projects to the region rather than elsewhere.[31] Offsets can be located in Canada and Mexico, as well, in order to create a more unified market in which offsets are fungible throughout the region.[32] Some specific projects eligible for offset credit that would otherwise be

unregulated under the cap include soil sequestration in agriculture and afforestation, reforestation, and conservation of forests within the forestry industry.[33] Through such projects, greenhouse gas intensive industries, such as forestry, can be curbed by other industries through projects to protect forestland.

However, the limit on offsets under WCI is dramatically different than that of RGGI or the Midwestern cap and trade policy. WCI allows up to 49% of total emissions reductions to be in the form of offsets from 2012-2020.[34] The rationale behind this large percentage is unclear, but it may be due in part to the extensive scope of the cap and the large number of opportunities for substantive offsets due to the geographic features of the West. Similarly, skeptical conservative politicians may have sought out a more flexible offset regime in order to prevent their states' economies from facing potentially negative consequences in the face of a rigid emissions cap. Regardless of the reasons behind the limitation, the substantial role of offsets certainly changes the dynamic for permit allocations; it may even reduce the gains from increasing the percentage of allowances put through the auction process since so many polluters will seek to utilize offsets instead.

Other Policies

WCI contains other policies that are important for the functioning of its cap and trade system. Some include: unlimited banking of allowances,[35] early action allowances for projects completed between 2008 and 2011,[36] and three year compliance periods.[37] WCI has also proposed an important provision to deal with carbon leakage. The two suggestions to protect the integrity of the cap and the energy-intensive, trade-exposed industries (EITE industries) are the following: allocate some allowances for free to promote competitiveness and reduce leakage or

require imported electricity to comply with cap and trade rules and pricing.[38] The design documents indicate that policymakers prefer the latter option, which would force neighboring observer states and others to comply in some fashion with the cap and trade policy in order to do business across state lines.[39] While this could be effective, it would also be a prime target for a constitutional challenge along the lines of interfering with interstate commerce, as described in Chapter 1.

Observers vs. Signatories

The role of observer states and provinces is an interesting one. Observer status allows a state to send delegates to working groups, have a seat at the table, access shared documents, and take part in discussions without actually being subjected to the cap and trade regime.[40] Such states cannot vote on policy design decisions, but they are treated like stakeholders and their input certainly matters.[41] Signatories likely listen to the observers' recommendations and try to implement changes in the hopes of garnering their involvement as a full-fledged member down the line. Observers participate in order to have bargaining power and to ensure that their interests are taken into account in whatever strategies are ultimately adopted.[42] No observer state in the region wants policymakers to overlook its interests when crafting a policy that can affect the entire region. Currently, many of the observer states are run by more conservative governments, while most of the more liberal states have signed onto the Initiative. Finding a way to get conservative states on board – whether voluntarily or through legal force – will be critical to creating a successful and effective climate change policy in the West.

Politics

Tackling the myriad geographic needs of the West is compounded by a diverse set of political leadership in the region. The West's tendency to have deeply conservative and staunchly liberal state governments makes political cooperation on an issue like climate change very complicated. The states have run into the obstacles of defiant state legislatures and major electoral changes that have made the political and legal outlook for WCI appear tenuous.

Implementation

While the method of leaving the implementation and enforcement of a cap and trade regime up to the states worked well for RGGI, the WCI experience seems to demonstrate that signatory governors underestimated the backlash from legislatures in their states. Most substantive state action on WCI commitments has been based almost exclusively out of governors' offices, without legislative consent.[43] The authority of legislative checks and balances on pacts such as the WCI has become a more intense issue in the West than in the Northeast. The Arizona legislature passed a law that banned the governor from implementing WCI without legislative consent,[44] and Washington and Oregon face a legal structure that requires new statutory authority to truly operate a cap and trade system.[45] Utah has also determined that the legislature must pass essential legislation to authorize the cap and trade program which has led conservative Governor Gary Herbert (R) to happily back away from Utah's commitments.[46]

These issues have left California and New Mexico as the only American states where implementation is a possibly by 2012,[47] meaning that the Initiative may be short-lived. In New Mexico, the state government determined that it already had the statutory authority to implement

WCI through existing environmental laws; consequently, Governor Richardson (D-NM) promulgated executive regulations to begin the trading on time.[48] However, even New Mexico's involvement is now in question following an electoral shift in the governorship,[49] and California's new climate change laws may eliminate the state's need to participate in WCI.[50]

Contrary to the American implementation problems, the Canadian signatories are in position to launch the cap and trade scheme on schedule in 2012.[51] In Canada, provincial premiers enjoy significantly more power than American governors and face little difficulty in implementing policies that have been approved by the chief executive. Due to the parliamentary system in each province, the premier automatically has the support of a majority of the members of his legislature.[52] Therefore, implementation of WCI was all but assured when the premiers signed onto the MOU. This fact raises the interesting question of whether or not the system of government in the United States is what limits the country's ability to pass substantive climate change legislation. In the face of divided legislatures and independent-minded lawmakers, governors face a steeper path to passage of gubernatorial-approved policies than their Canadian counterparts. Such distinctions between governmental structures undoubtedly make international collaboration difficult across North America and may prove especially frustrating for Canadian leaders who find policies frequently tied up in the United States.

Electoral Volatility

Paired with skeptical legislatures and economic uncertainty, electoral instability in the West has hurt the successful rollout of the Initiative. The most obvious example of electoral changes affecting the regional program is the case of Arizona. Republican Governor Janice Brewer was sworn into office after Democratic Governor Janet Napolitano assumed the position

of Secretary of Homeland Security in 2009. On February 2, 2010, Brewer released an executive order that ratcheted back the state's participation in WCI due to concerns about competitive disadvantages to Arizona – even though the previous governor had been the initiator of the Initiative.[53] The Republican legislature was then able to pass the aforementioned law to require legislative consent for WCI.[54] Within the executive branch, Brewer replaced the head of the Department of Environmental Quality, which further undermined the state's WCI involvement. This change reflects the importance of electoral shifts within the state bureaucracy, as well, which can endanger regional initiatives such as WCI.[55] The change of partisan power of *one* political office can send ripples through the entire state government and change the message completely – as it has in Arizona.

Similar changes are likely on the way in New Mexico under Republican Governor Susana Martinez who has expressed a desire to pull back from New Mexico's previously aggressive pursuit of the cap and trade program.[56] Since her inauguration, Martinez has wiped out a number of environmental boards in New Mexico and pulled back Governor Richardson's WCI-related executive regulations.[57] Lastly, Utah Governor Gary Herbert replaced Jon Huntsman who had signed onto WCI as a Republican thanks in part to the intense lobbying of fellow Republican Governor Arnold Schwarzenegger (R-CA), whose commitment to climate change legislation superseded partisan ideology.[58] Now, Governor Herbert questions the underlying science of anthropogenic climate change, along with the economic soundness of the plan.[59] Ultimately, the rise of conservative leaders who question climate change science, policy, and economics has dealt a major blow to the West on the issue of regional cooperation. Because Western states vary so greatly in political orientation, it makes regional agreements more difficult than those in ideologically similar regions like the Northeast.

Policy Viability

Ultimately, the resistance of state governments to join their governors in the WCI cap and trade regime could spell trouble for the pact's long-term viability. Without some form of enforcement or accountability, changes in the governor's mansion or a stubborn legislature can prevent a state from taking part in the regime. WCI will have to find a way to deal with issues such as Governor Brewer's withdrawal and her state's insistence on legislative consent[60] if the Initiative is to survive. National enforcement of a cap and trade policy would be one route – whether through a federal cap and trade system or through a mandate to create smaller cap and trade markets to tackle U.S. emissions.

Economics

The Western economy varies as much as its geography. With commercial tourism, energy intensive industries (forestry, agriculture, etc.), emerging cities, and an ever-growing population, the West must maintain a vibrant and supportive regional economy. One of the region's greatest strengths as it faces a transition to a new energy economy is its vast resources. Some states are very confident about their economic situation in light of climate change and energy reform; in fact, the New Mexico Environment Department is confident about the state's future due to its position as 2nd in the nation for solar energy, 12th for wind, and 3rd for natural gas.[61] Arizona's chief environmental officer also claims that his state has the ability to "become the solar powerhouse of the nation" under a new energy economy – with or without WCI.[62] Regardless of a state's resources, the impact of a cap and trade policy on the region's economy is of the utmost importance for the success of WCI. If economic benefits can be identified, perhaps even skeptical legislatures and public officials will be able to justify taking part in the program.

Predictions and Reports

Economic analyses are an important part of assessing the impact of WCI on the region. All analyses to date are based solely on predictions and models since the program is not yet in operation. However, these reports attempt to shed light on the concerns of policymakers and businesses alike. While the economic report produced by WCI predicts cost savings between 2012 and 2020,[63] a number of independent reports have predicted otherwise. Certainly each model has deficiencies and biases, but understanding the economic predictions associated with the Initiative is a critical part of assessing the viability of regional climate change policies in the United States. This section will review three such reports.

WCI Economic Modeling Report. The WCI economic report finds that emissions reductions can be achieved with $100 billion in savings between 2012 and 2020.[64] The model indicates that offsets, banking, and complementary policies (such as efficiency projects and renewable energy investments) will be key to containing the costs of the program, and the savings will vary depending on overall economic growth, fuel prices, and the effectiveness of such complementary policies.[65] The results of this model show modest cost savings through an increase in energy efficiency and reduced overall fuel consumption in the region.[66] WCI predicts that allowances must cost $33 in 2020 in order to reach necessary reductions under the cap and trade program, but the model forecasts that actual prices will only reach $24.[67] Such deficiencies may create a crack in the model's positive predictions because, while the policy will not hurt the economy, it may not actually achieve the desired goals. Overall, however, the model results do not anticipate the dire economic consequences that concern many business leaders and politicians; rather, it demonstrates that greenhouse gas emissions can be tackled in a market-based way with minimal impact to the region's economy.

Western Business Roundtable Economic Analysis. The Western Business Roundtable's (WBR) report takes a decidedly different approach. The WBR anticipates disastrous economic and energy impacts and takes political swipes at policymakers. While the report is very negative toward WCI, it is also noticeably biased because even the "benefits" section fails to recognize any positive outcomes.[68] The report predicts that WCI could impose higher costs on consumers, slow job growth, and deliver no scientifically measurable benefit to reduce climate change.[69] The Roundtable claims that green investments and jobs will not mitigate decreased economic growth, GDP, and job creation,[70] and it warns that WCI could discourage new fossil-fuel based industries from moving to the West and thereby give other regions of the country an upper hand for capturing such economically stimulating investment.[71] Apart from the direct economic impacts, the report finds that renewable energy is intermittent compared to traditional types of production, which will create an unreliable energy grid.[72] The report investigates each form of renewable energy and finds it irresponsible and unreliable for the energy needs of the West.[73] Lastly, the report makes certain predictions that seem to amount to a political attack or attempt to scare politicians into backing away from WCI. The Roundtable claims that WCI will disproportionately harm low-income families and create a discriminatory tax based on economic status and race.[74] These politicized environmental justice charges appear to take aim at a typically Democratic constituency and force Democratic proponents of WCI to defend their policies to their own supporters. This is a clever move by the WBR to take advantage of political concerns of politicians in an effort to bring down the Initiative.

The WBR does offer its advice for a plan that would best benefit the business community of the Western United States. The report indicates that the business community would benefit most from a national plan that involves all sectors of the economy, reinvests in capturing and

sequestering greenhouse gases rather than investing in intermittent technologies, and does not harm businesses or economic growth. They call for uniform standards in order to streamline business and prevent disproportionate effects on the West due to a regional plan.[75]

Beacon Hill Economic Analysis. The Beacon Hill Institute report, produced by economists at Suffolk University in Boston, also paints a negative economic picture for the implementation of WCI. It warns of increased input costs for producers, which would place industries as a disadvantage to those outside the area.[76] The report predicts that economic activity will decrease within the West due to the regulatory freedom of jurisdictions outside of the cap.[77] Beacon Hill's analysis forecasts increased energy prices, increased prices for all goods and services, economic damages such as job losses and decreases in personal income, and a reduction in profits across the Western United States.[78] Ultimately, the report finds that:

> …the policies will decrease employment, investment, personal income and disposable income. While the WCI claims the 'design is also intended to mitigate economic impacts, including impacts on consumers, income, and employment,' they fail to quantify these impacts.[79]

Summary of Conflicting Reports. The conflicting findings of these reports are understandably unsettling. WCI contends that the investment in a new type of energy economy will protect the region from major damages, while the independent analyses point toward major oversights by the Initiative. It would appear that none of the reports take into account the cost of inaction, and none of them address the impact of *some* states taking part while others do not. If the entire region could come under the cap, the market could be more efficient and possibly lead to greater results. However, with the currently disjointed and disparate participation, the economic impacts could be detrimental. This further underscores the need for a more coordinated approach – either through a national program or enforced compliance among the Western states.

Race to the Bottom and Free-Rider Concerns

The race to the bottom and free-rider problems are major concerns of both policymakers and business leaders. Governor Brewer's concerns about competitive disadvantages to Arizona under WCI are paired with the WBR and Beacon Hill reports, which warned of losing business to surrounding states. The February 2010 executive order that pulled Arizona out of the implementation of the cap specifically cited the following concerns:

> Whereas, imposing costs on Arizona's economy associated with a GHG cap-and-trade system that are not born by national and international rivals would cost investment and jobs in Arizona and put Arizona at a competitive disadvantage without effectively addressing what is a national and global issue.…
> Whereas, Arizona recognizes the risk that a GHG cap-and-trade system may be designed in such a way that disadvantages Arizona as compared to other states.[80]

However, as previously discussed, there is little evidence to confirm the race to the bottom's key tenet that industries move or select site locations based on the cost of environmental regulation. Simultaneously, the WCI recommendation to require neighboring electricity generators to comply with the cap would tackle a major source of the free-rider problem facing the member states' economies. While these concerns are important, they are also unsubstantiated and may amount to little more than a rhetorical ploy to invoke fear in politicians and the public about the impacts of WCI. The leaders of the Initiative should strive to provide counterexamples to the race to the bottom. Perhaps advocates could insert the concept of a race to the top into the debate by challenging all of the states in the region to beat one another out for climate change mitigation and renewable energy investment. If the states can force one another to compete *for* renewable energy investment, the tenor of the race to the bottom discussion will shift to favor WCI as a means of getting ahead of states that have fallen behind in terms of climate and energy policy.

Regional Specificity

Considering the West's unique and variable geographic characteristics, a regionally tailored policy like the WCI makes a great deal of sense when compared to a one-size-fits-all national approach. While the variation in the West is already enormous, the climates and habitats within the region, along with its industries, undoubtedly require a different set of environmental policies than other regions of the country. One such policy has already been discussed in the form of compliance flexibility mechanisms to help the region out during particularly difficult times; however, one specific provision is an especially relevant example of regional specification due to geography. The design summary calls for special flexibility in the face of weather incidents that could increase the cost of compliance, such as prolonged drought (which affects hydroelectric power and increases need for fossil fuel back-up energy), heat waves (which increase demand for fuel to cool homes), and cold spells (which increase demand for heat).[81] These are only a few of the climate-related events that can happen in the West that may require additional flexibility. In the face of a capped economy, such events may force a temporary spike in emissions needed for Western society to function, meaning that special provisions for these somewhat unpredictable events must be incorporated. While this is not an example of a policy that would weaken a nationwide plan, it does demonstrate needs that face certain regions and not others.

The Initiative also includes some special breaks and carve-outs for certain industries in the region. The exemptions for biomass and biofuels[82] will directly help (and protect) farmers and foresters across the West. Similarly, while agriculture and forestry are largely uncapped as industries, the ability of offsets to be purchased in these areas of the economy is of special significance for the region and its needs. WCI has thus found a way to allow forestry and

agriculture to flourish under the policy while still providing a market-based avenue to curb the emissions of such industries by allowing offset projects to take place. In a national plan, a policy to promote re-foresting would be senseless for the Great Plains and other regions and could encourage useless offset projects in parts of the country where forests would not be appropriate. These specific provisions for Western states take into account the geographic and economic factors facing the region.

Despite these regional specifications, the West is also an example of how a region can be too large. If the region were divided into smaller portions, even more specifically tailored provisions could be enacted that make sense given the geographic realities of each portion of the West. While the presence of these special policies is an important benefit of regional plans, the absence of more of them may point toward the need to pay better attention to how a region should be logically defined.

Limitations

Despite the impressive and ambitious goals of crafting a cap and trade plan to cover the entire Western United States, there are still serious limitations to this regional plan. One of the most striking is the ability of governors to easily pull out of the Initiative or delay implementation. The cases of Arizona and Utah have demonstrated the power of electoral shifts to undermine regional goals. Additionally, the influence of an uncertain legislature (such as that in Washington) can also block the ability for the cap and trade program to move forward. It is strikingly obvious that getting the program off the ground is a major limitation since only California and New Mexico were even remotely prepared to move forward in 2010.[83] Without enforcement of some kind, WCI could dissolve due to state gridlock and inaction.

The other major limitation is immediately evidenced once one looks at a map of the region. The huge and geographically diverse area is a major challenge to overcome and a large obstacle for creating an effective and fair program. While it is laudable that the region has come together already to draft the plan, the roadblocks ahead due to the size and geography of the region may be overwhelming. WCI itself acknowledges that the "partner jurisdictions reflect diverse geographies, climates, populations, industries, and energy and transportation infrastructures."[84] The Western Business Roundtable's report poses the dilemma in its analysis of wind power by saying "the energy profiles of the eight geographic areas within the WCI economic modeling are very different. It is hard to see how these eight entities could coordinate the massive switch… that is envisioned in the [Initiative design]."[85] With some of the states involved being larger than European industrialized countries, the size and variation of the West makes this plan incredibly difficult.

Lessons

The Western Climate Initiative provides a series of lessons for the national debate about climate change legislation. As the largest area covered by a regional plan, it most closely reflects the number of issues and policy decisions that would have to be made under a national approach. The Initiative does show that one massive region *can* come together to design a single policy that has an economy-wide scope and significant environmental goals. However, WCI has also illuminated a series of challenges that such a plan faces when trying to get off the ground. The positive and negative lessons of WCI are all important in charting the course for the next generation of climate change policies.

WCI has provided important information for emerging and existing regional plans, as well. One major lesson is the powerful and potentially negative role of governors and state legislatures in the implementation of a policy design. The constant fluctuation of which states are and are not participating in WCI is a major detriment to a national series of regional plans without any form of accountability. WCI's contribution may be to underscore the importance of having major consensus from governors during the drafting stages of such plans and including legislative leaders in order to ensure that passage and implementation are a real possibility.

Another issue that WCI informs is the dilemma of emissions leakage. Partly due to its large geographic size, the Initiative helps to decrease leakage in general.[86] But more importantly, its proactive policy proposals to force compliance for non-participating states in order to retain the environmental integrity of the cap and the economic competitiveness of member states is a powerful solution to a difficult problem facing all regional cap and trade regimes. Other regional regimes can take note of this solution and possibly implement it within their own pacts in order to handle this problem at a regional level. The most important caveat to this lesson is whether or not such a solution would be constitutionally permissible. Regional plans have already faced the question of whether or not such agreements violate the Constitution's interstate commerce clause, but this emissions leakage policy could be a more egregious infraction of the law. State leaders must be prepared to answer that question should the courts get involved. On a grander scale, if a national plan were to face emissions leakage problems with Canada or Mexico, Congress could rely on WCI's experiences to prevent leakage under a federal plan.

The most inspiring and daunting lesson from WCI is how the governors were able to bring together such a vast area with different environmental needs under one policy. Imagine

crafting a climate change policy plan that adequately and fairly covers deserts, plains, mountains, canyons, forests, coastlines, and tundra – all while Americans continue to move westward to develop cities, transportation networks, and industries. That is the feat that the Western governors have tried to accomplish through the Western Climate Initiative. The initial WCI Agreement recognizes that the work does not stop there, though, due to the nature of climate change. The governors noted the complications of not only the existing geographic variability, but of the impending impacts of climate change on the region, as well. They aptly highlighted

> …the effects of a hotter, drier climate, including prolonged droughts, excessive heat waves, reduced snow packs, increased snowmelts, decreased spring runoffs, altered precipitation patterns, more severe forest and rangeland fires, widespread forest diseases, and other serious impacts.[87]

In the face of existing and incoming challenges, the geographic variation alone may be enough to make policymakers step back and consider breaking up the West into more manageable and uniform portions.

However, the sheer size and variation of the area covered under WCI is also a compelling case for the benefits of a regional plan. The concept of creating a workable regional program for the Western states is already remarkably complicated – imagine trying to add in the rest of the United States under the same policy regime with all of these markedly unique states. Trying to bring all of the nation's sensitive habitats and human populations together under one national cap and trade regime seems almost impossible. In light of that, allowing regional differentiation based on economic and environmental circumstances is a more appealing form of a cap and trade policy than a national plan. If the federal government can find a way to take advantage of the benefits of regional climate change mitigation policies through a global warming policy that encourages such decentralization, the benefits of national enforcement and regional specificity can be folded into a single hybrid approach to reduce American greenhouse gas emissions.

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Chapter 5

Corn and Coal: The Midwestern Design
(Midwestern Greenhouse Gas Reduction Accord)

While all regions of the United States have a unique set of complexities, the Midwest is an especially complicated area for environmental, energy, and climate change policy. Geographically, its borders are undefined; the Midwest can sometimes extend as far West as Nebraska and Oklahoma, as far South as Missouri, and as far North as the Canadian border, yet other definitions restrict the region to only the major agricultural states in the center of the country surrounding the Mississippi River. The region's economy is dominated by both agricultural and manufacturing industries which demand high inputs of energy and control powerful lobbying organizations. The Midwest's focus on energy intensive industries is paired with its heavy reliance on coal-produced power that makes it a major greenhouse gas emitting region in the United States. The Midwest also boasts numerous renewable energy resources, including agricultural output for biofuels and a large proportion of the windiest swaths of America.

Politically, the Midwest serves as the country's most bellwether region due to frequent shifts in partisan control between Democrats and Republicans. These wild swings in electoral politics leave the region subject to major policy shifts across time and a lack of consistency that can make interstate cooperation a shaky endeavor. Ultimately, the "heartland" of America has proven to be a complex puzzle for climate change policymakers at the national, regional, and state level. The Midwestern regional cap and trade program is the most recently designed and, consequently, the most undefined. However, the policy choices found in the Midwestern Greenhouse Gas Reduction Accord shed light on the ways in which a regional policy can (and

likely must) be specifically tailored to the unique needs of the area in a way perhaps unattainable in the broader context of the entire nation.

History and Context

The Midwest followed the Northeastern and Western states with a regional greenhouse gas reduction policy of its own on November 15, 2007.[1] The Midwestern Greenhouse Gas Reduction Accord (MGGRA) was signed by a bipartisan group of governors, and it included Illinois, Iowa, Kansas, Michigan, Minnesota, Wisconsin, and Manitoba as signatories, along with Indiana, Ohio, and South Dakota joining as observers.[2] The governors' accord expressed the need for regional action in the absence of federal policy and specifically addressed the unique needs of the Midwest as a region.[3] Like WCI, MGGRA calls for the creation of a market-based and multi-sector cap and trade program to reach greenhouse gas emissions reductions targets.[4] As with the other regional plans, the creators of the MGGRA have expressed their desire for a national plan over the regional accord, but they hope the framework and design of MGGRA will spur federal action and inform the national debate.[5] According to a personal interview with Brad Crabtree, the Staff Facilitator and Coordinator of the MGGRA Advisory Group, the policy designers also sought to prove that the Midwest is capable of creating a regionally sensitive cap and trade program that could be extended to the national level without devastating the regional economy.[6] However, the Accord is intended to be able to stand alone if the federal government fails to act.[7] If the major upheavals following the dramatic shift from Democratic to Republican governors in the 2010 elections had not occurred, MGGRA was set to begin implementation on January 1, 2012.[8] However, due largely to the change in political tides, the cap and trade system is currently not moving forward, and it is unlikely to be implemented.[9]

Policy Basics[i]

The policy description for the Accord is based on the recommendations and design summary documents provided by policymaking working groups. Rather than state officials, these working groups were comprised largely of leaders of Midwestern industries, agriculture, NGOs, labor unions, and businesses.[10] This system is unique to MGGRA because the other cap and trade plans mostly sought input from such stakeholders rather than allowed them to truly formulate the design recommendations. While the players at the policymaking table certainly had different interests (varying from coal companies to environmental organizations), all sought to outline a workable cap and trade regime for the region, and they ultimately attained broad consensus about the overall package of recommendations.[11] This unlikely outcome of unified support for the plan was largely motivated by a general consensus among Midwestern policymakers that the region should be represented in the national climate change debate, which typically focuses on the coastal states. Many worried that the Midwest was not being adequately represented in Washington, and the hope was that a comprehensive, regionally acceptable plan for the Midwest could impact the national debate and affect any national cap and trade scheme.[12]

The most recent such recommendations were released in May of 2010, meaning that the following analysis is largely theoretical due to the lack of implementation experience. The framework is based on the following series of goals laid out by the stakeholders involved:

(1) Enable linkage to other jurisdictions' systems to create economies of scale, increase market efficiencies, diversity and liquidity, while reducing costs; and

(2) Maximize economic and employment benefits, while minimizing any transitional job losses; and

(3) Reduce the shifting generation and emissions to non-participating states; and

[i] Recall the table in Appendix II for comparisons to RGGI and WCI.

(4) Credit past and present actions to reduced GHG emissions; and

(5) Address potential interaction or integration with a future federal program[13]

Coverage

MGGRA's expansive scope of greenhouse gases and emission sources is impressive considering the region's heavy reliance on coal and manufacturing. The Accord covers CO2, methane, nitrous oxide, and other greenhouse gases[14] in a multi-sector cap that includes regionally generated and imported electricity, industrial combustion, industrial processes, building fuels, and transportation fuels.[15] All entities producing 25,000 tons of emissions or more are subjected to the cap except those burning 100% biomass.[16] In line with the region's agricultural economy, exemptions have been made for biomass, biofuels, and biogenic emissions;[17] such exemptions cover industrial fermentation processes used to create biofuels, beer, medicine, and other products, in addition to the production of biofuels themselves.[18]

Goals and Enforcement

The Midwestern plan seeks to decrease emissions by 20% of 2005 levels by 2020 and 80% by 2050.[19,ii] The execution of this ambitious goal uses each participating state's (or province's[iii]) regulatory and enforcement authority.[20] As expected, the concerns over electoral instability and stubborn legislatures are an omnipresent impediment to reliable enforcement of the Accord. Ultimately, the goals are intended to be linked with other cap and trade programs (such as RGGI, WCI, and European policies) in order to maximize impact and economic efficiency;[21] such action may increase enforcement and compliance mechanisms in the long run.

[ii] Recall the table found in Appendix I which compares the goals and policy mechanisms of all three regional plans.
[iii] Throughout this chapter, participating provincial governments are implied when states are mentioned.

The Accord stipulates that any entity that ends a compliance period without enough allowances to cover emissions will surrender a portion of future allowances and pay a fine. This punishment may be augmented by state laws, as well.[22] This direct enforcement mechanism is paired with market oversight to ensure that permit prices never get too high or too low in order to provide enough stability for businesses to comply appropriately.[23] MGGRA also maintains an allowance pool for emergency situations in which the market may necessitate extra allowances.[24] This mechanism provides flexibility beyond the usual use of offsets, and such reserves can be augmented by states if too many allowances are in circulation.[25]

Permit Allocation[iv]

At least initially, the MGGRA has left the decision about allowance allocation up to the individual states, but the Accord provides recommendations and guidance for the optimal economic outcome of the cap and trade program.[26] For the first three compliance periods (nine years), the MGGRA proposes a hybrid approach of both free allocation and auctions with a transition toward a complete auction over the following three compliance periods.[27] The design summary describes in detail how each sector (transportation, utilities, merchant power, and industrial power) should implement allocation systems in order to minimize economic strain.[28] The plan for the slow rollout of auctions is also paired with a recommendation that states take specific steps to prevent large windfall profits for polluters that can result from free permit allocation.[29] Ultimately, while the lack of guaranteed auctions may be disappointing for some, the long-term goal of a full auction is remarkably significant for the heavily-coal intensive economy of the Midwest.[30]

[iv] Cap determination remains uncalculated by MGGRA. The design recommendations call for a uniform manner of determining the size of the cap and state allowance budgets. (*Midwestern Greenhouse Gas Reduction Accord: Final Recommendations of the Advisory Group.* 8.)

Revenue Reinvestment

While the stream of revenue from auctions may not be as reliable as that from RGGI, the MGGRA stipulates that "allowance value should be put toward climate-related purposes, not other purposes, with a focus on the Midwest's special challenges as a coal-dependent region."[31] This explicit call may be in response to some of the Northeastern governors' reallocation of RGGI funds to balance state budgets. Instead, MGGRA hopes to maximize any revenue flow to mitigate the unique challenges faced by the region. "Climate-related purposes" is defined broadly to include: investing in renewable energy, mitigating adverse impacts of the Accord, and addressing impacts of climate change.[32] Some such projects are listed as: development and deployment of low carbon technologies, consumer and industry rebates to lessen economic impacts, conservation and energy efficiency programs, competitiveness enhancing projects such as preventing leakage of emissions, jobs, and industries to the surrounding area, and worker education and training programs.[33] During the designing process, coal companies actually advocated some form of auctioning or carbon pricing as opposed to strictly free allocation because they wanted a flow of revenue for research and development into lower carbon energy options.[34] The willingness of fossil fuel industries to take on the costs of a capped economy in an effort to produce long-term benefits is certainly a positive step for getting traditional polluters on board with a greenhouse gas reduction scheme.

MGGRA also encourages states to direct a portion of their revenue stream to region-wide programs rather than keeping all of the funds in-state. Some such programs include: a regional low-carbon technology commercialization fund to foster new research, development, and deployment, a capital attraction and innovation program, regional workforce development, and forward-looking regional infrastructure (such as a smart grid or high speed rail).[35]

Offsets

The restrictiveness of offset policies for MGGRA lies in between RGGI and WCI. MGGRA limits offsets to 20% of allowances and requires that they be located within signatory states or those that have signed the regional Memorandum of Understanding.[36] As with the other programs, offsets must be: real (actual reduction without leakage), additional (outside of business as usual), verifiable (able to be monitored), permanent (sufficient duration), and enforceable (consistent with MGGRA regulations and rules).[37] Similarly, all offsets go through a standard two step review process to determine eligibility.[38] At the MGGRA design meetings, offsets proved to be the most contentious of all issues[39] due to their significant impact on agriculture. The importance of agriculture to the Midwestern economy is well known, but the treatment of farms in terms of defining offsets was a major source of debate. Ultimately, the designers chose to leave many decisions up to scientific panels in order to ascertain how to include agricultural offsets into the program in a way that was both fair and environmentally sound.[40]

Other Policies

Like the other regional plans, MGGRA allows for unlimited banking and early action credits with the relatively early cutoff date of January 1, 2005.[41]

Politics

The politics of the Midwest is a complex combination of partisan fluctuations and powerful interest groups (i.e. manufacturing, coal, agriculture). The potential influence of economic interest groups will be explored in greater detail in the Regional Specificity section, but the stability of the Accord on the whole is especially tenuous due to the electoral volatility of

the Midwest, which is especially prone to shifts in partisan power. Figure 5-1 illustrates the tendency for Midwestern governorships to consistently switch party hands after most eight year stints. Likewise, the graph reveals that neighboring states are often run by governors of different partisan persuasions, which likely makes regional cooperation more difficult. Importantly, Democrats and Republicans in the Midwest are typically more ideologically distant than their Northeastern counterparts, which can lead to more tangible and stark effects after electoral change. As seen with the case of WCI, shifts in gubernatorial power can have a powerful impact on the stability and implementation of a regional pact; without governors to support the agreement, MGGRA will likely fall apart.

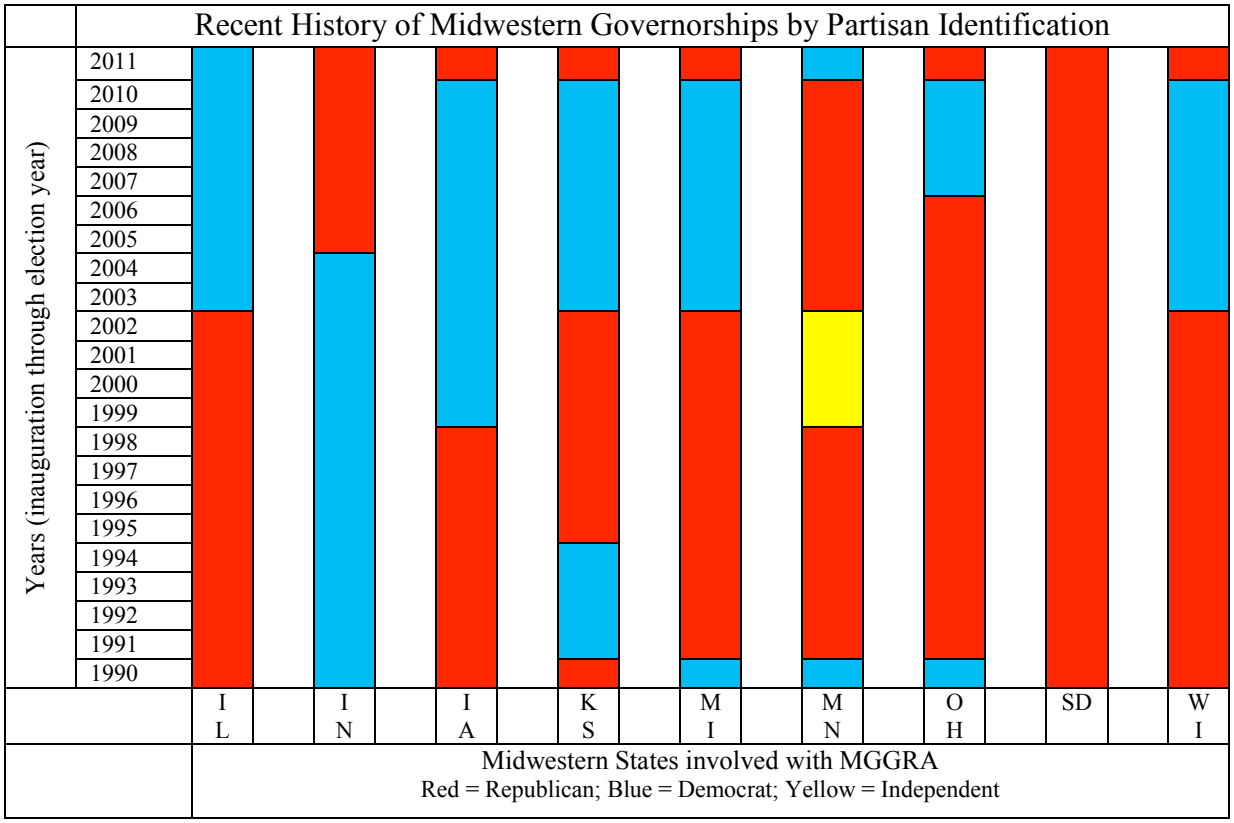

Figure 5-1.

The 2010 wave of Republican governors in the Midwest swept out many Democrats who helped craft or supported the Accord. While there was a possibility for implementation in 2009,

which was largely undermined by the expectation of federal action,[42] the recent shift in political tides[43] and the reluctance of these new leaders to issue regulations and jump on board with the Accord is a telling sign for the future of regional plans in the Midwest. While MGGRA attempts to use the RGGI standard of requiring individual states to enshrine the cap and trade program into their own state legal framework, the lack of political cohesion in the region may give rise to obstinate legislatures like those seen in the West. Without legislative authority or some other binding mechanism, the electoral fluctuations in the Midwest may be the most important political story to tell for a regional approach to climate change mitigation. Paired with the powerful and competing interests of coal, agriculture, and manufacturing – the political landscape for this region may be the most hostile yet for regional cap and trade programs.

Economics

With the Midwest economy's reliance on energy intensive industries, the economic impacts of MGGRA are of critical importance for its political and logistical success. Convincing everyone from business leaders to energy producers to small-town farmers that the cap and trade system will not devastate the financial soundness of region is no small task. Without any experience of the program actually in operation, all economic predictions, models, and concerns lack evidence. However, the relevance of these reports is especially important as conservative governors and legislatures move into power and may seek to reevaluate the economic feasibility of regional climate change mitigation.

Predictions and Reports

The major report cataloging the impact of MGGRA on the regional economy was carried out by the Accord itself by using a REMI model like the one discussed in Chapter 3. The REMI model does not paint a very bright picture for the future political and economic success of MGGRA. Overall the report is a negative one that may force MGGRA policymakers to reconvene and alter the design of the program. The model predicts an overall decrease in Gross Regional Product of roughly 2.8% by 2020 and a retardation of growth of all member states by about three to six months over the course of 20 years.[44] Similarly, the region is expected to create jobs at a pace slightly lower than business as usual.[45] While the region is expected to ultimately achieve the same level of economic activity over a longer period of time, the slower growth may not prove politically acceptable.

Observer states outside of the cap see smaller decreases in regional growth but are still affected due to interactions with the economies of member states.[46] The overall results, along with these observer-specific trends, create an incentive for states to remain outside of the cap with the observer status. This report decreases any of the Accord's economic bargaining chips used to entice observers to sign on. Also, it is possible that the observer states (OH, IN, SD) were already some of the most coal-dependent states and may have faced the most economic harm under the cap. This means that they may have been wise to abstain in the first place, and these results could prompt other states to follow suit in order to avoid losing competitiveness.

For all of the negatives of this report, the REMI model does predict positive impacts of complementary policies, such as an increase in energy efficiency and renewable energy, advanced coal generation with carbon capture and sequestration, and lower carbon fuel standards under MGGRA.[47] Such complementary policies are forecasted to reduce the cost of the Accord

by 30-40% over the long term and create over 100,000 jobs by 2030 in both member and observer states.[48] Additionally, MGGRA auctions could generate over $5 billion in 2020 and nearly $11 billion in 2030 at an estimated price of $11 per ton of emissions in 2020 and $23 per ton in 2030.[49] These permit prices are markedly higher than the $7 cap under RGGI, showing a potential willingness for more aggressive pricing in order to maximize emissions reductions and incoming revenue. Such revenue may be able to somewhat offset the negative costs of the program to the regional economy.

Lastly, the model does not account for the cost of inaction, the national economic recession, or potential CO2 restrictions from the federal Environmental Protection Agency.[50] This is an important caveat because it provides the most compelling argument in favor of the Accord following the negative predictions above. If advocates can demonstrate that avoiding action completely will hurt the region more (perhaps due to a larger learning curve under a federal plan), then there may be a case for taking the economic hit now in order to avoid a bigger one later. Similarly, this logic may be applicable to the entire nation in an effort to prompt regional and national leaders to take action in order to avoid future pain.

While the REMI model certainly does not give MGGRA the resounding victory it had undoubtedly hoped for, the realistic costs of implementing a cap and trade regime in an energy intensive region are important to recognize. Typically the *best* results come from the implementers themselves, so the economic forecasts of independent organizations may reveal even worse predictions. With the political fluctuations in the region, MGGRA must find a way to be on more solid economic footing before expecting to win support across the Midwest. If the program can find ways to make up some of the economic damages – perhaps through mandatory

auctions or more exemptions – MGGRA may have a better chance of remaining politically and logistically viable in the long term.

Race to the Bottom Concerns

The Accord itself hints at the fear of a race to the bottom when it expressly recommends directing auction revenue to protecting jobs and industry in the Midwest.[51] Similarly, interest groups like the Americans for Prosperity have called for the abolition of MGGRA in order to signal to the market that the Midwest is "open for business."[52] If a race to the bottom exists (or even if it is solely based on politicians' fears and those of the public), it could be especially detrimental due to a combination of the observer states' close geographic location and the typically low cost of coal-produced power. As discussed in Chapters 2 and 3, the likelihood of a business to move across state lines due to a cap and trade policy is very low; however, the impact of inexpensive energy costs and the avoidance of regulatory requirements may still have a serious impact on state bids for economic development in the region. Even if the Accord does not force businesses to move, it could encourage them to only expand into non-member states in order to take advantage of cheap coal-produced power within the Midwest under the unregulated markets of observer states.

Agricultural Concerns

Given the highly industrialized and energy-intensive form of farming practiced in the United States, a cap and trade system can have major impacts on the Midwest's agriculture economy. Such a program often increases fuel prices and can thereby "significantly increase the costs of production if agriculture is treated as a regulated entity."[53] Given that agriculture on the

whole is not given an exemption under MGGRA, the impact on the Midwest's staple industry is critically important. Offsets are one major avenue through which farmers can benefit under a cap and trade system if they can be generated from a wide range of activities. A broadly defined offset program could promote the use of agricultural land and projects, giving farmers a place in the new, capped market to sell their land and products. For example, imagine wind turbines and solar panels on farms or untilled land serving as carbon sinks. [54] However, if offsets are permitted to exist outside of the region – especially internationally – the benefits may be completely undermined by cheaper and more competitive offset bidding, leaving farmers to face high fuel prices without recompense in the form of offset investment.[55] Protecting the economic drivers of the Midwest is certainly an important economic goal that MGGRA planners will continue to work through as they try to garner support across the region.

Regional Specificity

The opening page of the Accord touts the regional strengths of the Midwest and highlights all of the energy sources available in the region, including: wind, corn ethanol, biodiesel, cellulosic biomass, solar energy, coal, and carbon sequestration.[56] This list of resources paints a good picture of how much potential the Midwest has and how many ways in which the Accord can specifically tailor its policies to the region. The detriment of this bounty of resources, however, is that MGGRA runs the risk of providing so many special breaks and carve-outs that it finds its policies weakened in the process. Striking the balance between optimizing the Midwest's potential and avoiding the pitfalls of excessive special deals has been an important part of designing this program.

While the region certainly has some variation, it pales in comparison to the geographic mosaic under WCI. Due to the moderate uniformity in landscape and industries, MGGRA policymakers have had the ability to implement policies that promote agriculture and provide a helping hand to the coal industry as it struggles to catch up to environmental standards. When combined with the negative economic forecasts of the program, these special breaks may be a political necessity and may help dampen the blow to the region's economy. These exemptions include the aforementioned leeway for emissions created by the burning of biomass and biofuels and the production of biofuels and other industrial products.[57]

Certain aspects of the basic policy structure of MGGRA are also especially beneficial for the region. While many RGGI states jumped into a full scale auction immediately, MGGRA has created a slow implementation time-table for its auction system. By allocating many of its permits for free in its early years, MGGRA gives energy intensive industries, like agriculture and coal, more time to adjust to a capped environment before subjecting them to bidding competitively for the ability to operate. In theory, by the time Midwestern auctions are in full swing, these industries will have had time to prepare for the change and limit economic hardship. In addition, the large figure of 20% of allowances being eligible for offsets may well be a major flexibility concession to the agricultural and coal industries in an effort to let them further acclimate to the capped economy. Because offsets are currently only permissible within the region, farmers have yet to face the issue of seeing offset investments go abroad. This is unlikely to change due to the capacity for offsets to provide a major source of revenue and protection for farmers in the region.

Limitations

The Midwest has a tumultuous combination of fluctuating politics and powerful interest groups that make the MGGRA a prime suspect for limitations. First, the unreliable politics of the so-called Rust Belt could spell trouble for the consistency of an interstate cap and trade policy. The implications of both gubernatorial and legislative partisan shifts will consequently be an important part of MGGRA's story over the coming years. Without consistent ideological leadership, MGGRA faces the limitation of political instability, which is not easily solved.

Second, the trifecta of powerful, energy-intensive economic drivers of the Midwestern economy in the form of coal-powered generators, agriculture, and manufacturing creates a maze for policymakers and business leaders alike. Coal-fired electricity will be a constant limitation in the ability of the Midwest to reduce its greenhouse gas emissions. This will become especially troubling if coal industry lobbies choose to exert pressure to prevent aggressive carbon pricing and reductions in order to mitigate costly impacts on production and entrench their place as the primary energy producers of the region. Additionally, the importance of agriculture to the regional economy and the sensitivity of farmers' economic situation must be addressed. Agriculture is certainly not going to disappear from the region, and its heavy use of energy and emissions of greenhouse gases further strains the Midwest's ability to rein in emissions. Unless agriculture can be revamped to use less fuel, the exemptions and special breaks for farmers may overwhelm MGGRA. Lastly, the prevalence of industrial and manufacturing jobs across the Rust Belt is another important economic sector that must be protected. MGGRA must ensure that its policies do not hinder such blue-collar jobs and the exports they produce.

The dilemma of Ohio and Indiana as the powerhouse observer states poses a special problem for MGGRA. These states are large in population, have many manufacturing jobs, and

produce major portions of the region's coal-fired greenhouse gas emissions. Ohio representatives were consistently present at MGGRA design sessions, while Indiana and South Dakota had a more limited presence.[58] Regardless of their participation in the process, by remaining outside of the cap, these states remain unregulated and pose a threat to the environmental goals of the Accord. Similarly, the possibility of significant carbon leakage from electricity markets in these states into their regulated neighbors may further degrade the mission of the cap. A major concern is that the only way to bring these states into the fold may be to extend exemptions to coal power and manufacturing that may seriously weaken the Accord's aggressive impact in member states. However, without finding a way to account for such leakage or pull both states into the Accord as full participants, Ohio and Indiana will plague the success of MGGRA.

Lessons

The creation of the Midwestern Greenhouse Gas Reduction Accord is a major step forward for an emissions-heavy region of the United States that faces strong opposition and conflicting interests at every turn. The region produces 60% of its electricity from coal, thrives on greenhouse gas intensive industries, and would be the seventh largest worldwide emitter of greenhouse gases if it were an independent country.[59] These facts alone make the leadership and design of the Accord a feat to be hailed by environmentalists and energy activists. In fact, Brad Crabtree states that "when we got started, the assumption was that anything that will be accomplished nationally will have to be done in spite of the Midwest…. That the Midwest was the obstacle" to cap and trade legislation.[60] While national legislators and commentators may have viewed the energy portfolio and economy of the Midwest as a likely roadblock in

greenhouse gas reduction legislation, MGGRA demonstrates that policymakers can come together to iron out an environmentally progressive plan that tackles the issues of major industries, garners wide consensus and support among the region's primary economic drivers, and still has only a minor (even if negative) regional economic impact.

Due to the complicated political and economic circumstances of the Midwest, MGGRA provides a number of other lessons for the future of emissions regulation in the United States. The Midwest's unique political situation as a bellwether region that swings with political tides is an important aspect of the Accord. Like its location in the center of the continent, the Midwest is not solidly aligned with either party and can be pulled in both directions. The fact that Republican and Democratic governors alike signed onto the Accord at its inception is a powerful signal to American politicians that compromise and common ground can be found between the parties on climate change legislation. It remains to be seen whether a national regime would have greater environmental impacts than a series of tailored regional ones, but the capacity for an ideologically mixed region such as the Midwest to come to consensus is a great step forward and a lesson to be emulated – under either a regional or national regime.

Lastly, the region's willingness to invest in a shared future among the states on an economy-wide scale is especially important for the future of any regional cap and trade plans. Not only does MGGRA cover all of the major emissions sectors in some capacity, but it also takes strong steps toward fostering working relationships between the states in the Midwest regarding climate change. The focus on working as a unit rather than as a series of separate states may pave the way for more cohesive and comprehensive programs in the future. The Accord retains the sovereignty of states by allowing decentralization within the region, but it also calls the Midwest to invest jointly in regional goals and programs. By tackling shared problems, working

relationships can be strengthened and more cooperation will likely follow. Additionally, looking beyond borders is especially poignant for the climate change debate. Some issues know no borders (such as smart grid and high speed rail projects promoted by the MGGRA) and force individual actors to come together. These problems mirror the borderless nature of global climate change. If the Midwest can come together on small projects, it is possible that the country can come together – regionally or nationally – to combat the issue of climate change that affects everyone, regardless of region, state, or city.

Endnotes

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[34] Crabtree, 2011.

[35] *Midwestern Greenhouse Gas Reduction Accord: Final Recommendations of the Advisory Group,* 10-12.

[36] *Midwestern Greenhouse Gas Reduction Accord: Final Recommendations of the Advisory Group,* 21-22.

[37] *Midwestern Greenhouse Gas Reduction Accord: Final Recommendations of the Advisory Group,* 19.

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Chapter 6

Coast to Coast: Summing Up the Regional Plans
(Analysis and Discussion)

In the face of federal inaction on climate change legislation, policymakers across the United States have begun to take on the responsibility of curbing emissions by developing the three regional cap and trade programs discussed in the previous chapters. RGGI, WCI, and MGGRA are not perfect, but each policy has a number of strong policy mechanisms and the potential promise for larger scale implementation. The benefits of these plans include deference to regional needs, policy experimentation, and an early start on reducing at least some of America's greenhouse gas emissions. Despite the struggles of implementation and policy design, from an environmental perspective, these pacts are better than the alternative: nothing.

The preceding chapters have taken a close look at each of the regional initiatives and have provided a framework for assessing them that includes the political, economic, and policy implications of such cap and trade programs. Table 6-1 summarizes the main points garnered from each plan and highlights a number of creative solutions from the regional cap and trade schemes. Ultimately, there are strong benefits to be offered by a regional approach, but many issues remain, including the reliability of implementation, the methods of enforcement, and the ability to accurately forecast the economic implications of decentralized action. In order to present a logical and workable policy solution, these and other outstanding questions must be addressed. This chapter will review the main dilemmas facing regional and national climate change mitigation and offer a series of responses to the most important questions regarding the future of climate change regionalism. These discussions will help inform the policy proposal outlined in the final chapter.

Summary-Comparison of Major Concepts Discussed in the Case Studies

(Please see Appendix II for specific policy mechanism comparisons)

Concept	Definition/Significance	RGGI	WCI	MGGRA
Geography	The United States is large and geographically variable compared to peer nations. Such regional needs affect climate change policy.	RGGI is relatively compact, covers moderately homogeneous geography, and does not face reliance on agriculture or concerns of drought.	WCI covers an expansive territory, including many different ecosystems. Its complex geography makes it difficult to administer and may be too ambitious. Deserts and tundra are especially vulnerable to climate change. However, the region also has ample renewable resources.	MGGRA is in between the others in size. It contends with flat, agricultural land that requires heavy inputs of energy. It also has abundant coal for energy production and large tracts of area ready for wind power development.
Scope	The extent of greenhouse gases covered by the plans varies. This affects overall efficacy of environmental goals and market function.	Especially limited: only CO2 and only coal-fired power plants. New advances to include transportation could increase effectiveness.	Economy-wide scope including multiple sectors and greenhouse gases. Policy mechanisms leave out some traditional industries (e.g. logging).	Economy-wide scope, including multiple sectors and greenhouse gases.
Permit Allocation	The amount of emissions allowances auctioned vs. freely allocated varies. This affects emissions reduction incentives and government revenue.	States have committed to well over the 25% auction mandate. Massive incoming revenues.	10% initial auction requirement with ultimate goal of 100%. Minimizes revenues and incentives to curb emissions.	100% auctions recommended over time, but ultimately up to each state. Low incentive to auction due to coal power.
Revenue Reinvestment	Auction revenue is invested in different ways under each plan.	Energy efficiency, renewable energy, R&D, and consumer relief. Some governors reinvest to pad state budgets. Some states have reinvestment mandates.	Energy efficiency, renewable energy, R&D, consumer relief, uncapped sources (agriculture, forestry). No mandates.	"Climate related purposes" including energy efficiency, R&D, transition assistance, renewable energy. Also: reducing carbon leakage & funding regional initiatives. No mandates.

Concept	Definition/Significance	RGGI	WCI	MGGRA
Offsets	Offsets provide flexibility, but they are used in different capacities across regions.	3.3% of compliance obligation. Expanded use permitted if triggered by cost of emissions allowances. Very limited usage.	Up to 49% of compliance. Extra flexibility for the complex region; includes projects to reduce emissions from uncapped industries.	Up to 20% of obligation. Availability of farming offsets will greatly affect the success and impact on agriculture.
Politics	Gubernatorial and legislative electoral changes in states affect the stability and implementation of regional policies.	Ideologically leftist region faces fewer problems due to elections. Conservative governors in ME, NJ could pose threats to the plan. Many governors issued executive regulations to implement RGGI.	States vary greatly in partisan identification, which limits broad support. Changes in governorships (e.g. NM, UT, AZ) have hurt implementation. Legislatures are especially hostile to WCI.	Especially volatile electoral results make stability difficult. 2010 Republican wave may seriously affect plan.
Economics	Economic impacts of the plans affect the viability of climate change policies. Reports rarely include cost of inaction.	Independent reports demonstrate the possibility for a small negative impact. States have found little impact and say that revenue reinvestment covers expenses.	WCI report demonstrates minimal impact. Independent reports forecast major economic blows with little environmental impact.	Program report reveals troublesome economic forecasts for the region. Impacts on job growth and regional economy could be negative.
Regional Specificity	Smaller plans allow for specific provisions that minimize negative economic impacts and maximize environmental utility in a region.	Special privileges for eligible biomass as a renewable resource.	Exemptions for biomass; some industries remain uncapped (agriculture and forestry); funds for cap flexibility due to droughts and cold spells.	Exemptions for biomass and the production of biofuels; initial free allocation to coal-fired plants to give them more time to adjust to a cap.
Status of Implementation	Due to many factors, the three regional plans vary greatly in their current status of implementation.	In full operation since 2009.	California and Canadian provinces prepared to launch in January 2012. Other states not ready.	Uncertain due to electoral changes.

Table 6-1.

Regional Questions and Solutions

Government

Federalism. Does the federal government or do state governments have the authority to make policy about climate change? Certainly this is the most basic question regarding the legality of regional cap and trade systems. As described in Chapter 1, some contend that states cannot impose such policies on their own because it would interfere with interstate commerce. Firstly, such an understanding of the Constitution has not yet been identified by the courts. Secondly, states are currently the main executors of environmental policy. Not only do individual states already have their own environmental standards and regulations that indirectly impact interstate commerce, but the federal government also consistently relies on states to carry out its own environmental regulations. Therefore, states are already at the helm of many environmental policies that are undoubtedly enforced with differing strictness among neighbors and that are sometimes part of the aforementioned partial preemption model, which allows more aggressive states to increase federal baseline standards. In light of this existing environmental policy framework, it is clear that states have a place in implementing climate change policy – whether individually, regionally, or by the decree of the federal government.

Policy Experimentation. It has been evident across the case studies that many regional policymakers intend for their initiatives to serve as policy experiments to inform the national debate on climate change legislation. The important question is whether or not such influence has been effective at the national level. Chapter 3 catalogues the influence of RGGI on Maine Republican Senators Snowe and Collins, but there is little evidence of similar impacts from MGGRA or WCI. Additionally, even the influence of a positive, successfully operating cap and trade regime like RGGI has not been enough to prompt a federal response. It appears that, in

large part, the regional plans have not been pushing the federal agenda in their intended fashion. Rather, the regional programs have influenced one another and prompted changes across the three pacts. It follows that regional cap and trade plans are better at influencing other states than the federal government. Perhaps this is due in part to the regional specificity associated with each plan which limits their ability to appeal to the nation as a whole. Accordingly, regional programs should shift their efforts away from informing the national debate and focus, instead, on improving existing plans and promoting the emergence of more regional pacts as the federal response to climate change continues to be lackluster, at best.

Policy

Mechanism Choices. While the basic structure of all three cap and trade regimes is the same, some plans contain notably creative solutions to the problems and concerns voiced by opponents. These choices are important to underscore as key elements for any future action. The clearest policy choice relates to the provision of allowances. As demonstrated by RGGI, auctions produce useful revenue in large quantities that can be directed toward the goals of emissions reductions and cleaner energy. While a large-scale auction system may not work in some regional economies due to industries like coal, the benefits of auctions in the Northeast demonstrate the wisdom behind this policy mechanism. Additionally, innovative solutions to create flexibility within the regimes include: the WCI emergency allowance pools for times when the region may face especially troubling climate-related events and the expansion of the offset limits under RGGI if allowances prices get too high. Both of these flexibility policies help stabilize the economics of their respective regimes and improve political palatability. All cap

and trade regimes can learn from these examples and should continue to find ways to buffer against potentially negative economic consequences of a capped economy.

Emissions Leakage. One potentially devastating deficiency associated with regional cap and trade plans is the issue of emissions leakage. The possibility of losing the environmental benefits of the plan due to nonparticipating surrounding states, while still taking on the economic costs of a cap and trade regime, must be addressed in order to make regional plans viable. The WCI plan is the most forward-looking on the issue of emissions leakage. The preferred approach in the West to force compliance on imported electricity from neighboring states would likely solve the emissions leakage problems facing regional plans. Assuming that the courts would not find interstate commerce laws to be violated through such action, these fees should maintain the integrity of the cap. In the longer term, if all states entered into some form of cap and trade, each state would have an interest in maintaining its own cap, which could create an easier system of charging across state lines. Additionally, the second WCI proposal to provide some free allowances to electricity generators in order to maintain their competitiveness would be a backup option in the face of a court challenge or hostile electricity companies located across state lines.

Drawing Regional Lines. One of the most important questions facing regional plans is: how is the nation most properly divided into climate change legislation-friendly regions? Regional lines can be drawn based on a variety of criteria, including: geographic uniformity, political homogeneity, or sheer size. Certainly the natural environment does not have clearly defined lines and climate change is a borderless problem, yet the policies put in place for a region are based largely on the ambiguous political boundaries of its member units. Without taking into account the most logical *natural* boundaries for each regional agreement, serious limitations can emerge. For example, the Western Climate Initiative may be too large as a region

due to its incredibly varied geographic features, which is exacerbated by its deeply divided political atmosphere. Conversely, RGGI covers a more homogeneous area in both political ideology and geography. There certainly exists an optimal space where political forces can work in tandem while still challenging one another to create a progressive policy and where geography is similar enough to create a regionally tailored plan. Finding this balance may involve trial and error, but trying to draw lines that make policy, political, and economic sense is imperative to the success of regionalism.

Politics

Political Palatability. Regional politics has proven remarkably difficult for the West and the Midwest, which begs the question: are regional political struggles insurmountable? The variability of gubernatorial politics certainly makes these plans shaky without some sort of oversight or establishment to keep things intact. As an economy-wide regulatory policy, cap and trade easily becomes a political target in campaigns, which typically leads to at least one candidate being opposed in some significant fashion to such policies. In the Midwest, the especially volatile political swings may prove incredibly difficult without some form of enforcement. Even though former Governor Tim Pawlenty (R-MN) signed onto the pact, politically conservative governors elected in 2010 may not be as amenable to the policy. In the West, the agreements of Republican moderates like former Governors Jon Huntsman (R-UT) and Arnold Schwarzenegger (R-CA) are promising, but they are paired with more conservative Republican opposition in the form of Governors Brewer (R-AZ) and Martinez (R-NM). Similarly, the struggle to get the plans through hostile and ideologically divided legislatures has proven especially difficult. In truth, the treacherous political landscape associated with the

successful implementation of regional cap and trade plans may be too much to overcome. In light of this recognition, the need for some form of reliable enforcement of climate change legislation is even more obvious. Proponents of regionalism must turn toward finding ways to impose such enforcement mechanisms onto states; avenues could include statewide ballot initiatives, statutory implementation, or a national scheme.

Protecting Against Electoral Volatility. In addition to a more politically homogeneous region, the Northeast has had more success than other regions in protecting its interstate pact through statutory and regulatory implementation. Laws like the Healthy Air Act in Maryland can bind a governor to participate in a regional plan. However, executive orders are easily overturned, as demonstrated by the governors of New Mexico and Arizona in recent months. In essence, the trend is that codifying regional pacts into state laws (either by legislating the MOU or binding the government to participate) is the most effective mechanism for protecting the cap and trade regime against the fluctuations of electoral politics. Despite the staying power of state legislation, hostile legislatures have proven that attaining such statutory protection is often not an easy task. This further demonstrates the need for a new form of enforcement in order to make regional plans viable in the long-term.

Another political benefit of regional plans is the discretionary spending funds garnered through auctions. Governors in the Northeast have shown that this extra money can come in handy and may help protect the plans from partisan dismantlement if the fiscal benefits outweigh the political costs of maintaining the pacts.

System of Government. As explored in relation to WCI, the American system of a representative democracy and the separation of powers may inhibit contentious legislation, like climate change mitigation, from passing as easily as it does in parliamentary systems, like

Canada. Primarily, at the subnational level, the issues associated with divided government between American governors and the legislatures are not present in the Canadian premier system. Importantly, the same governance issues extend to the national level. These issues were evident in 2009 when President Obama was supportive of pricing carbon, but the U.S. Senate would not follow suit. In a parliamentary government, the prime minister's agenda faces little opposition unless a subsequent election undoes the previous administration's work. Obviously the form of government in the United States will not change to accommodate climate change legislation, but the distinction between the successful Canadian implementation of emissions caps and the unsuccessful American implementation of the same should not go unnoted.

Economics

Major Regional Concerns Debunked. The trifecta of economic concerns voiced by many opponents of climate change regionalism includes warnings of: a reduction of economic output, a race to the bottom, and free-riders. Throughout the case studies and preceding chapters, these concerns have been largely debunked. Under RGGI, there has been little evidence of a major economic destabilization, the WCI report indicates mild gains, and the MGGRA report forecasts only *minor* economic hardship. While independent reports sometimes warn otherwise, the evidence from RGGI (as the only operating cap and trade regime) does not provide much credence to these predictions. Before RGGI was implemented, reports suggested dire economic consequences, as well, which have never been realized. Similarly, the race to the bottom continues to be a rhetorical ploy used by politicians to frighten the public and fellow officials about the plans, but little evidence exists of such a phenomenon actually being a legitimate concern. As described in Chapter 3, the cost of moving an entire site is too great to result in a

mass exodus of businesses out of capped regions. States relying on competitively disadvantaged neighbors will likely be disappointed in the lack of business movement into their borders. Lastly, the free-rider problem carries major limitations considering the fact that the environmental benefits of regional plans will remain small without wider participation. Additionally, as described below, the cost of abstaining from regional plans may be greater than the benefits of remaining outside of the pacts.

Business and Uniformity. The desire of the business community to have a more uniform set of regulations, as opposed to separate rules in each state or region, is a significant concern. However, state-by-state regulation is not without precedent, and the business community has found ways to handle different regulatory environments in the past. Currently, states vary in regulatory policies and stringency on issues ranging from environmental standards to health care to tax policies. Businesses have successfully traversed these policy differences for years and will likely be able to adjust to regional variation in climate change legislation. Without an example of the collapse of a state's economy caused by varying environmental regulation, business concerns about regionalism are reduced to those of efficiency rather than survival. Steps such as reducing carbon leakage, promoting linkages across plans, and setting certain standards across regions can help businesses and should be goals of regional plans, but there is no evidence that the mere existence of a decentralized approach will doom businesses across the country.

Incentives to Join/Cost of Abstaining. If regions continue to implement cap and trade plans, the economic impacts of abstaining will become even more important. States will see their rates go up even if they do not participate since their neighbors are regulating electricity prices that cross state lines. Therefore, the fact that neighboring states are implementing regulations on electricity generation may provide an incentive for nonparticipating states to join

in and receive the associated benefits (e.g. auction revenue) in order to offset the increased cost of electricity. This economic peer pressure to join could, in an ideal world, lead to a race to the top where states scramble to join the best regional plan that will maximize their cost savings due to higher electricity prices, while simultaneously promoting innovation and competition for the best cap and trade ideas.

Cost-Benefit Analysis. The ultimate economic question is: are the environmental benefits worth the costs of implementing cap and trade? The Western Business Roundtable report would suggest that they are not, but none of the economic modeling reports have taken into account the cost of inaction. The impacts of climate change on the economies of states across the country must be taken into account before assessing any cost-benefit analysis. Specific predictions and discussion of this topic will be addressed later in the chapter.

Subsequent National Questions

Considering that regional policymakers suggest that their plans are intended to inform the debate on creating a federal policy, it is important to consider what new issues exist regarding the creation of a national cap and trade scheme following the emergence of regional programs.

Government

Preemption. To what level would a national cap and trade scheme preempt the regional pacts currently in existence? Recall that total preemption would eliminate the current plans completely, while partial preemption would set a national floor and still allow individual states to amplify the stringency of their own cap and trade systems. Business leaders would likely push for total preemption in order to create uniform standards, but environmental advocates would

likely prefer partial preemption in order to allow some states to more aggressively tackle emissions. Because the ultimate goal is to reduce emissions, it would be most logical for the national government to impose partial preemption. However, the power of the business lobbies and the concerns of states that have not implemented any form of climate change legislation may result in total preemption in order to level the playing field. Ultimately: partial preemption would be more environmentally aggressive, while total preemption may be more politically palatable.

Policy

Size and Geography. A common theme across the previous chapters has been the challenge of incorporating the massive size and geographic variability of the United States into a single cap and trade policy. In truth, WCI arguably covers an area too large to be housed under a single plan, which has clear implications for the viability of a fully national approach. Recall Figure 1-1 which depicts the United States by comparing the greenhouse gas emissions of individual states with entire nations. Clearly the United States' emissions eclipse those of most other industrialized nations due, in part, to the size of the country. Figure 6-1 depicts a similar map from Sightline Institute, which shows that even the emissions of some of the world's largest nations are encompassed within the United States' pollution output. If the largest, most industrialized countries (and even the entire *continent* of Africa) can fit their emissions into the United States, it would appear that crafting a plan for the whole nation is nearly impossible. In order to handle both the size of the United States and the regional needs associated with the country's varied geography, splitting up the nation into smaller regions is a much more workable way to handle climate change policy.

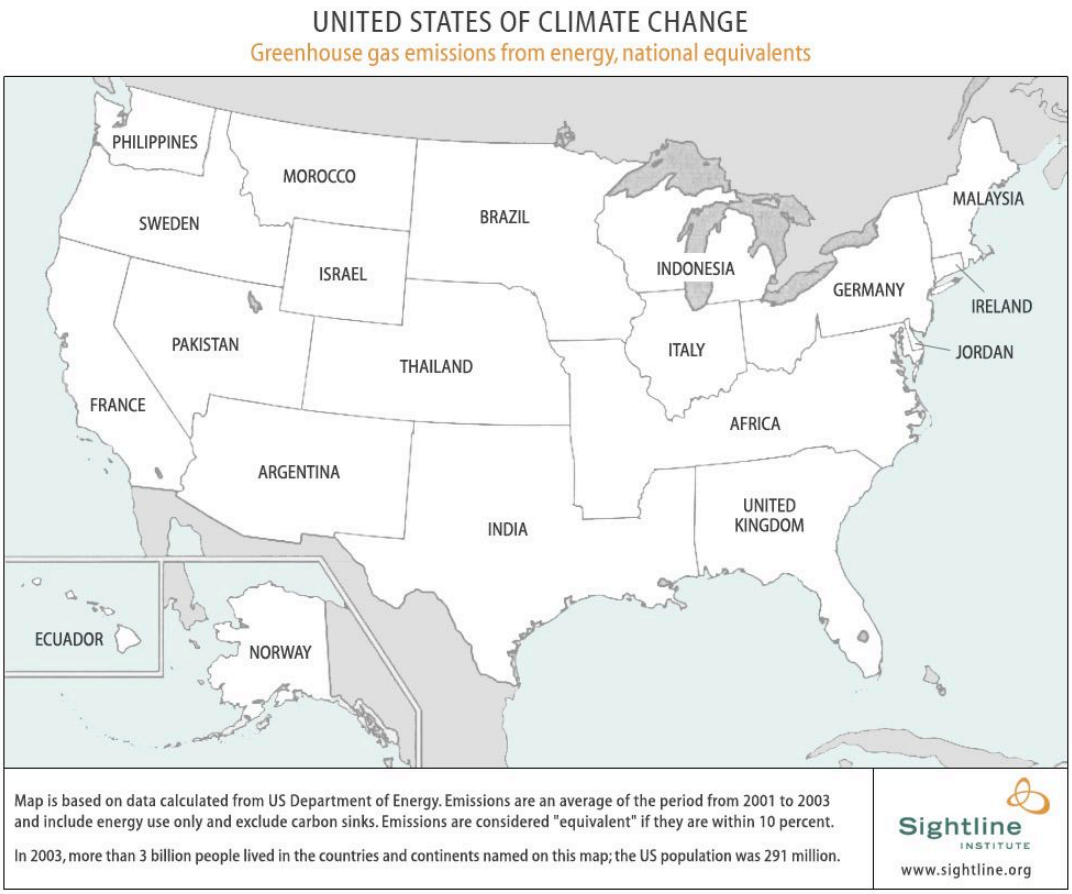


Figure 6-1.[1]

Regional Weakening. Regionally specific exemptions and policies have been an important and instrumental part of the success of RGGI, WCI, and MGGRA. These specially tailored incentives and giveaways provide important evidence for the value of a regional, rather than a national, approach to American emissions policy. Due to the energy intensive industries of the Midwest, a less aggressive permit allocation and offset regime are possible. While RGGI only covers utilities, its ability to move directly into large-scale auctions serves as a reminder that certain areas of the United States are capable of moving faster along the efficiency and effectiveness track for cap and trade. Under a national regime, the Midwest would likely demand a delayed auction system, copious offsets, and a number of exemptions that would hold the Northeast back from pursuing a more aggressive approach. The incorporation of all regional

concessions into a single national system may water down the regulatory framework so much as to be nearly environmentally moot. Conversely, by circumventing a national regime, the Midwest has been able too differentiate regionally and satisfy its needs, and RGGI has been able to implement a stronger auction system and reinvestment program that would have been seriously diminished under a national, one-size-fits-all plan. Under a regional approach, fewer concessions and limitations under each individual plan will make a greater national impact by allowing each region to maximize environmental benefits *and* economic security without having the needs of the entire nation imposed upon its efforts.

Politics

National Politics. If the recent past is any indication, the chances of garnering enough support among federal politicians to pass a national emissions reduction policy are slim. Ryan Lizza's article[2], referenced in the introduction of this report, catalogs the arduous attempt to pass cap and trade legislation in 2009, which fell apart toward the end of the negotiation process. The 111th Congress was one of the most environmentally-friendly legislatures in decades, and the resurgence of conservative politicians in Congress has certainly hampered any plans for a national cap and trade scheme. When it comes to climate regulation, national politicians contend with a number of competing issues, including states' rights, protecting energy producers, and spreading the policy's impacts equally across the country. Contrarily, state and regional plans allow for more flexibility, and a series of separate policies mitigates the issue of a one-size-fits-all policy imposing disproportionate effects on certain regions. Relying on the federal government to enact a national plan is a dangerous gamble. Instead, subnational action appears to be the only way to achieve crucial political success.

Economics

A Risky Experiment. The impacts of a cap and trade policy on the national economy are unknown. Regional plans can shed light on some of the effects, but due to the specificity of these policies, the economic impacts are not wholly transferable to the entire country. A single regulatory framework covering the entire United States would not only be bureaucratically burdensome, but would also pose a serious risk to the national economy if safeguards are not properly foreseen and implemented. Without flexibility and room for policy experimentation and innovation, one cap and trade regime could hurt the entire country rather than a single, more easily recoverable region. While business leaders may prefer the idea of uniformity, the uncertainty surrounding a policy that covers the diverse geography and large size of the United States may not be worth the economic risks.

Cost of Inaction. Without a doubt, climate change will have significant impacts on the United States and its economy if it is left unchecked. If regional plans do not work in the long term and a national plan cannot be passed, what are the consequences of inaction, and are they compelling enough to embrace regionalism as the best hope for slowing the impacts of climate change? A team of scientists compiled a 2009 report entitled "Global Climate Change Impacts in the United States" based on research carried out by the U.S. Global Change Research Program. This exhaustive report catalogs the impending impacts of climate change on the United States on a region-by-region basis. The economic cost of these effects is astronomical, and the omission of such monetary value in cap and trade economic predictions (at the national and regional levels) is irresponsible. The report forecasts increasingly extreme weather events across the country[3] which will affect all regions and threaten rural and urban communities alike. The scientists' warn that costly historical events, such as Hurricane Katrina ($15-18 billion)[4] and the

nationwide drought of 1988 ($70 billion)[5] could easily happen again due to climate change effects; the data also forecasts potential new economic losses, including $8 billion in agricultural losses[6] and $800 million in losses to the recreational skiing industry in the Northeast alone.[7] The implications of these few examples can be extended across the country.

The clear costs of inaction are tangibly visible in these concrete examples, but policymakers should pause to imagine the potentially devastating economic and social costs of broader climate change related impacts, as well, such as: stressed water resources, sea-level rise, storm surges, thawing permafrost, increased insect pests, and spikes in water and animal borne diseases.[8] The loss of unaccounted-for ecosystem services and the immense cost of adaptation to the impacts of climate change on daily life continue to add to the cost-benefit ledger in a way that necessitates action to mitigate these outcomes. While concerns about a minor reduction in GDP are good political talking points, when the totality of future economic costs is put into the equation, it becomes abundantly clear that the economic cost of inaction is far greater than the United States (or any country) is ready to bear.

Current Status of Regional Plans

The possibility of expanding regional cap and trade systems to a more permanent place in American environmental policy must first come to terms with the current status of the regional movement. RGGI is in full operation and stands as the only regional pact truly testing its mettle as a cap and trade program. Unfortunately, the remaining two plans are not faring as well in the current political landscape.

In the West, the broad consensus across the region from a bipartisan assemblage of governors has fizzled out. Today, only California and the Canadian provinces are ready to

launch WCI on its intended implementation date.[9] While California, Ontario, Quebec, and British Columbia account for over 50% of the emissions within the WCI region,[10] the marked absence of any other U.S. states is cause for concern. In addition to legislative problems, the region has lost a number of supportive governors over time.[11] Many states, such as Montana and Utah, are not in any position to get started; meanwhile, New Mexico's new governor has slammed on the brakes in regards to WCI, which was largely ready for implementation before her ascendance to power.[12] In truth, the governors initially intended to push and prod the federal government to enact climate change legislation before implementation of WCI was slated to begin. They knew in advance that it would be an uphill climb to get WCI passed through their legislatures, and they were hoping to rely on federal enforcement of cap and trade in order to make it happen.[13] Their reliance on WCI as a policy experiment and impetus for federal action has fallen short, and the consequence is an embarrassing lack of preparedness by the Western signatory states.

Not surprisingly, as a result of the 2010 elections and the 2009 failure of a national cap and trade program, MGGRA is also falling apart. Partisan turnovers in governorships have dramatically reduced support for the program within the states.[14] This stands as a clear example of the perils of electoral instability. Worth noting, as well, is the stark absence of *any* cooperative climate change mitigation agreements in the Southern United States. The combination of a politically conservative culture and a lack of readily available alternative energy infrastructure and resources makes the South the farthest behind of all regions.

The critical question, then, is: what is wrong with these plans? The preceding pages have demonstrated that economics and policy mechanisms are not the problem, but rather that politics is the most pressing obstacle to regional cap and trade programs. If enacted, regional plans could

maximize the environmental impact and minimize economic distress thanks to policy specificity and flexibility. In order to take advantage of the wisdom behind a regional approach to climate change legislation, a paradigm shift is necessary to reframe the policy dilemma to fit a new reality: regionalism can and should become the future of American greenhouse gas reduction policy. However, while the benefits of a regional plan are compelling, without solving the treacherous political problems of implementation and enforcement, they cannot work.

Moving Forward

In order to make regional cap and trade regimes the new norm in the United States, a powerful political force must be brought forward to secure implementation of plans across the country and effectively enforce emissions reductions. An adequate enforcement structure to create a national rollout of regional plans would deal with the existing political hurdles and strengthen the economic and policy arguments for regionalism by increasing environmental effectiveness and decreasing the economic concerns often associated with a capped economy. The only perceivable and workable enforcement mechanism comes in the form of the federal government itself. While a national cap and trade regime does not appear to be a feasible option, federal enforcement of greenhouse gas reduction on a decentralized, state-wide level puts the necessary political muscle behind a policy best handled on the subnational stage. The following chapter will outline how such a system could be designed and implemented to tackle American greenhouse gas emissions in a systematic *and* flexible way.

Endnotes

[1] "United States of Climate Change." Originally published in: *The Daily Score*. Sightline Institute. Seattle, WA. 2007. Used with permission. < http://www.sightline.org/maps/maps/Climate-StAggrEmissions>.

[2] Lizza, Ryan. "As the World Burns: How the Senate and the White House missed their best chance to deal with climate change." *The New Yorker*. 11 October 2010. 13 October 2010. <http://www.newyorker.com/reporting/2010/10/11/101011fa_fact_lizza?printable=true#ixzz11JV51osB>.

[3] *Global Climate Change impacts in the United States*. Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, eds. Cambridge University Press, 2009. 12.

[4] *Global Climate Change impacts in the United States*, 68.

[5] *Global Climate Change impacts in the United States*, 102.

[6] *Global Climate Change impacts in the United States*, 74.

[7] *Global Climate Change impacts in the United States*, 104.

[8] *Global Climate Change impacts in the United States*, 12.

[9] Cummins, Patrick. Western Governors Association: Western Regional Air Partnership, Director; Climate Change and Air Quality Program Director. Personal Telephone Interview. 20 Jan. 2010.

[10] Cummins, 2011.

[11] Cummins, 2011.

[12] Cummins, 2011.

[13] Cummins, 2011.

[14] Cummins, 2011.

Chapter 7

Coordinated Regionalism: Harnessing the Wisdom of the States
(Regional Cap and Trade Policy Proposal)

The wisdom and benefits of decentralized, regional cap and trade regimes are sound. In order to tackle American greenhouse gas emissions in the most economically viable and environmentally ambitious manner, policymakers must find a way to harness the power of a regional approach while overcoming the impediments caused by state and regional politics. In the face of federal inaction and the unlikelihood of finding the political will to craft a nationwide policy scheme, regionalism must be fully embraced as the United States' most realistic hope for substantive climate change legislation. Therefore, based on my case studies and the political realities, I propose a national mandate for state greenhouse gas emissions reductions that allows each state and/or region to enact adequate and appropriate cap and trade systems designed by subnational governments. For, without the muscle of the federal government to reach necessary reductions, the benefits of regionalism cannot be attained. Under such a scheme, the combination of reliable implementation and regional deference, along with federal enforcement, will establish an effective policy to combat global climate change.

Scrapping a National Plan

Beyond the aforementioned problems associated with the size, geography, and national politics of the United States, there are reasons why the current existence of regional frameworks makes a future national plan unviable. Regional pacts have diversified the playing field so that, under a national scheme, each region would be starting at a different place in terms of emissions reduction policies. The lack of uniform action across the country would pit regions with existing

plans against those without. No region will want to face disproportionately negative consequences – whether due to previous inaction *or* by being forced to forsake a regionally tailored system. In fact, the RGGI MOU states explicitly that:

> When a federal program is proposed, the Signatory States will advocate for a federal program that rewards states that are first movers. If such a federal program is adopted, and it is determined to be comparable to this Program, the Signatory States will transition into the federal program.[1]

This passage aptly illustrates the current dilemma: regional policymakers may want a national program, but in early mover regions, they will seek special benefits and privileges for their foresight. Contrarily, the late bloomer states (such as those in the South) will demand special benefits and breaks in order to catch up. The insistence of states to avoid being penalized for either being ahead of the game or behind the curve would pose a series of pitfalls for national legislators on top of the preexisting policy debate. In a workable national policy, special privileges cannot go to every region, which makes a federal program even harder in the face of existing regional plans. Instead, encouraging those states that have remained dormant on the issue of climate change to create their own regional plans would allow these regions to move forward at a proper pace without restricting and pulling back on RGGI, MGGRA, and WCI. Ultimately, the federal government's historic lack of action necessitates a decentralized approach in order to accommodate the varied statuses of different geographic regions.

Policy Proposal

The proposed plan is based on a state by state, economy-wide greenhouse gas emissions reduction mandate that would be ratcheted down over time in order to significantly reduce overall national emissions. This policy places the design and implementation of regionally tailored cap and trade programs with the states, but it also includes mandated reduction levels to

ensure participation. Under this framework, the best aspects of federalism are retained in the form of state innovation and experimentation in order to maximize environmental utility and minimize economic impact. Trial and error are rewarded under such a plan, which will ultimately result in the most business-friendly policies, while still maintaining the environmental integrity of national goals. Additionally, this simple mandate punts the ball to the states where most environmental legislation is already carried out and, therefore, where the most seasoned environmental policy experts reside. The reliability and enforcement capabilities of the federal government will provide policy stability in the face of electoral volatility, will establish accountability among the states in order to prevent free-riders, and will avoid an unfair division of emissions reduction burdens across the nation. This nationally mandated regional cap and trade regime will heretofore be referred to as "Coordinated Regionalism."

In reality, there does not need to be a *national* plan. Instead, by employing the federal government's ability to enforce state action, each state and region will be able to create the best plan for itself, while still being held accountable to national emissions reduction goals. This plan places value on the uniqueness and flexibility of regional plans, while simultaneously attaining significant emissions reductions. Therefore, under this system, the United States can tackle its domestic problems with implementation *and* its international responsibility to mitigate climate change.

Major Tenets

Table 7-1 lists the major policy features of this proposal. More detailed descriptions of the policy mechanisms will be discussed in the proceeding pages.

Proposed Policy Mechanisms for a Coordinated Regionalism Approach	
Feature	Proposed Mechanisms
Cap and Emissions Reductions	Congress would mandate that all states reduce greenhouse emissions by a certain, uniform percentage over the course of a multi-year compliance period. Following these benchmark years, the cap would be readjusted and a new percentage would be mandated in order to continually reduce emissions over time. Such continual reassessment after each compliance period allows flexibility, while still providing a mechanism to achieve specific national emissions reduction goals. To maximize economic efficiency and environmental impact, the cap would be multi-sector, economy-wide, and cover all relevant greenhouse gases (beyond simply CO2). States could create special exemptions as appropriate, as long as reduction targets are met.
Permit Allocation	In order to produce revenue for national energy policy goals, the federal government would require (as RGGI does) a baseline percentage of permits to be auctioned. Like RGGI, states and regions could select how many allowances would be auctioned or freely allocated beyond the mandated percentage.
Revenue Reinvestment	Because states and the national government will rely heavily on research and innovation to produce clean energy, revenue from the mandatory auctions would be required to be directed toward climate and energy related purposes. Similarly, states would be encouraged to provide consumer relief (such as the RGGI Relief program). Any funds generated from allowance auctions above the federal requirement would be unrestricted and could be utilized by state governments as appropriate (whether to pad state budgets, establish emergency reserves, or further serve energy and climate purposes).
Offsets	To maintain the decentralized nature of the policy, no national offset market, standards, or percentage restrictions would be established. However, the federal government would encourage the adoption of cross-regional standards in order to jointly recognize offsets across the country and create a larger, more efficient offset market.
Preemption	The plan would follow a partial preemption model in which early mover states would be permitted to continue moving forward with more ambitious reductions than those required by law. A national floor would also exist in order to keep hesitant states up to par. This floor would provide some uniformity for business concerns and mitigate free-rider or race to the bottom scenarios.
Design Requirements	The plan would allow expansive deference to state and regional policymakers to design a market-based cap and trade regime that fits the needs of each area while complying with federal emissions reduction requirements. The federal government would express certainty that issues of interstate commerce would not be infringed upon under this regime since the emissions reductions would be occurring nationwide.

Table 7-1.

This table provides a good representation of the major pieces of the Coordinated Regionalism model. However, it is not exhaustive and certainly leaves a number of questions unanswered. The following pages will address many of the most significant issues associated with this policy framework. For example, options will be presented to mitigate punishment to early mover states based on the uniform percentage reduction benchmarks, and incentives for aggressive climate change mitigation will be proposed. Additionally, the political feasibility and enforcement structure of this mandate will be explored in order to justify the difficulties and potential pitfalls of this cap and trade regime. In the end, this report provides an innovative solution in the form of a policy blueprint and will, by necessity, leave many of the finer details to be fleshed out by policymakers and experts.

Why Coordinated Regionalism Will Work

Under a national regime, the needs and demands of each region will weaken a cap and trade system to the point of limiting its overall environmental impact. Such regional needs are large, variable, unchangeable, and non-transferrable to a national scheme without sacrificing the ambitious reductions necessary to tackle America's emissions totals. In truth, as Paul Posner compellingly argues, "a single uniform federal set of standards threatens to impose a one-size-fits-all framework on states with vastly different energy markets and needs that should be taken into account if a cap and trade system is to work effectively."[2] Conversely, at the regional level, without the specter of addressing the needs of the entire nation, fewer concessions under each plan will make for a greater overall national environmental impact and will allow each region to maximize both environmental benefits and economic security.

Additionally, state governments already have experience implementing regulations that serve national goals to address borderless environmental problems. State policymakers are the

experts, so allowing them to innovate and implement emissions reductions will take advantage of an existing wealth of knowledge, rather than forcing federal ideas onto a subnational expertise. As Barry Rabe describes, "different states may be unusually well equipped to fashion reduction strategies that make sense, given their particular mix of economic and governance realities and the fact that no government or private entity has mastered 'how to do' climate change policy."[3] Accordingly, Rabe warns "that it might be foolhardy for the federal government to ignore state experience and at some future point try to impose a new national strategy of its own design."[4] Coordinated Regionalism thereby provides the space for states and regions to address their unique needs in the face of an environmental and energy issue as complex as climate change.

Political Feasibility and Stability

Atop of these arguments, the proposed Coordinated Regionalism plan is also more likely to meet the political feasibility and stability tests that national and regional plans have been unable to attain. Not only does this mandate tackle the problem of certain states staying outside of the current climate change regional pacts, but it also addresses policy instability associated with electoral changes and can create a broader coalition of national legislators than a one-size-fits-all regime.

The political beauty behind Coordinated Regionalism is that it both combats global warming *and* preserves states' rights. This strategy is more bipartisan than a national "big government" system because it can appeal to legislative fence sitters, namely the climate-conscious, states'-rights Republicans and the Democrats concerned about federal overreach and/or the lack of regional specificity under a national system. If Coordinate Regionalism were seriously proposed, most ardently pro-cap and trade Democrats would likely get on board by

realizing that a decentralized compromise may be the only option for substantive action. Conservatives would be appeased by the devolution of responsibility and innovation to the states, while skeptical Democrats could take comfort in the ability of their home districts to tailor a plan that fits the region's needs. In this sense, by enticing moderate Republicans and conservative Democrats, Coordinated Regionalism has the potential makings of a left-right coalition on an issue that usually faces ardent opposition from multiple sides.

Of great significance is the flexibility that a decentralized approach allows for late bloomer states in the South. Coordinated Regionalism offers these regions a chance to catch up at their own pace without forcing WCI, MGGRA, and RGGI to either sit idle or devolve in order to reach a lower national standard. Hence, this flexibility will appeal to both first mover states and late bloomers, while continuing to provide the politically advantageous aspect of regional deference and specificity.

In terms of policy stability, the reliability and enforcement of a state-by-state national mandate will prevent state and local political shifts from causing the complete dissolution of American emissions reduction policy. If a regional program faces negative economic impacts or encounters electoral political shifts, the subnational autonomy associated with this framework would allow each region to amend its own plan, without affecting other regions. However, even if a new governor or legislature were to be unhappy with an existing regional pact and thereby consider withdrawal, the mandate would require the state to maintain a policy of some sort in order to reach the required national emissions reductions. Conversely, without a mandate, if a regional plan were to fall apart, the associated states may not reengage and the infrastructure of national climate change mitigation would crumble. On the other side, under a national regime, if the policy turned out to negatively affect the country, its repeal would upend all climate change

mitigation efforts across the nation. The decentralization of climate change policy, therefore, inoculates the country against losing all climate change legislation in one fell swoop, while simultaneously preventing politically disinclined states from pulling out of national responsibilities all together. Additionally, the reliability created by the mandate solves the political stability problems that have dogged the success of regional approaches to date.

Ensuring Environmental Integrity

In order to ensure the environmental integrity of Coordinated Regionalism, two important components of the plan must be addressed. Firstly, in order to harness the enforcement power of the federal government, a method of ensuring state compliance must be employed. Secondly, safeguards must be enacted to neutralize the threat of emissions leakage across regional boundaries. Under a Coordinated Regionalism approach, both of these issues can be dealt with in a way that is hard to attain under the existing framework of disparate regional pacts.

Enforcement. Clearly the key component of Coordinated Regionalism is the ability of the national government to force states to reduce greenhouse gas emissions. A number of methods could be employed to force compliance among the states. Like the Clean Air Act, the federal government could withhold highway and other funding from states that do not meet their required benchmarks.[5] More aggressively, the federal government could incentivize reductions by threatening to require offset purchases for any greenhouse gases that are not mitigated on time. Lastly, the federal government could prepare a cap and trade program to impose onto states that do not institute one of their own. Such a federal program would inherently not take into account the regional needs of whichever states it affects, meaning that it would likely be more stringent than any plan an individual state or region would craft on its own. Any of these

enforcement mechanisms would be strong deterrents for skeptical states. However, all federal enforcement would rely heavily on an adequate method of monitoring greenhouse gas reductions. In order to attain accurate enforcement, Coordinated Regionalism will require an initial investment in monitoring technologies, and states will have to provide a method for tracking emissions reductions within their borders.

Emissions Leakage. In a country like the United States where energy is transported across state lines, the possibility of emissions leakage threatens to undermine the effectiveness of a set of regional plans. Certainly the involvement of all states in a set of cap and trade regimes decreases the incentive to circumvent carbon pricing, because all states would be regulated in one way or another. However, the dilemma still remains about how to deal with energy that passes from one regional plan to another. The most effective solution comes from WCI, which would require imported electricity to follow the regulations of the state into which it is entering. Because all states would be participating, it is up for debate whether exported energy should face the regulations and pricing requirements of the exporter or the importer state. Most likely, such decisions would be dealt with on a state-by-state basis in order to preserve the integrity of each state's required emissions reductions. Regardless of the exact mechanism, in order for Coordinated Regionalism to work, energy will have to be accounted for as it crosses state lines by charging greenhouse gas allowance payments onto one or both sides of the transaction. Additionally, steps will have to be taken to ensure that international energy from Mexico and Canada cannot sneak into the system and create an incentive to purchase cheaper energy abroad.

Remaining Questions

Assigning Caps. Among the most contentious aspects of this plan will likely be the uniform emissions reduction percentages mandated to each state. Due to varying energy portfolios and overall emissions, a 10% decrease may be much easier for some states than for others. However, a blanket decrease per state is an easy way to reach a nationally stated goal. If legislators attempted to assign different caps to each state based on current emissions, political tension would likely scuttle the policy. Unfortunately, a flat-rate percentage decreases the incentive for capable states to reduce emissions faster than the stated percentage, since it will only cost more money and be more difficult for industries. However, the policy could easily allow a state to recoup extra reductions in the following compliance period. Under such a system, if a state surpasses its mandatory cuts, it could have more leeway in the following round of reductions or could receive some sort of government incentives or credits as a reward for aggressive actions. In order to foster interstate competition for the most efficient policies, states that exceed the mandatory reductions in a given compliance period could opt to either retain the extra reductions for flexibility in the following compliance period or sell their excess reductions as additional allowances to other states (within their regional plans or outside of them). Under this scenario, aggressively pursuing more ambitious emissions reductions would lead to a benefit to ambitious states in the form of either increased flexibility or revenue inflow.

The most pressing concerns about a blanket percentage reduction mandate involve the early mover states that will have already tackled the easiest reductions, while such low-hanging fruit will still be up for grabs in the laggard states. This situation could put early movers at a significant disadvantage since emissions reductions become more difficult after the easiest sources have been regulated. This policy proposal will therefore have to include some form of

early action credits to the RGGI states and California, which have already begun to decrease emissions. While late bloomer states will not likely accept a the full embrace of *all* reductions undertaken prior to the mandate, perhaps a palatable compromise would be to recognize reductions undertaken during the two years prior to the national mandate. Overall, while it may be more ideal to assign caps based on each state's current emissions portfolio, a flat-rate percentage is simpler to administer and more reliably reaches a stated national reduction goal. By providing flexibility for states more capable of easy reductions, a flat percentage can work and is the easiest way to provide some sort of uniformity across the nation.

Sector Specificity. Apart from assigning an appropriate overall cap, some will argue that an effective cap and trade regime should determine specific caps based on each major emissions sector. This would ensure that all caps are economy-wide and would place emphasis on the most important and most feasible cuts. However, sector-specific caps would also create a bureaucratic nightmare and would prove incredibly difficult. Rather, the mandate requires that each subnational program must be economy-wide and allows each state to deal with how to make their policies sector-specific. If the federal government gets too specific, it will unravel the states' rights and flexibility benefits of Coordinated Regionalism.

Business Concerns. Despite a national floor for both emissions reductions and allowance auctions, businesses may still be concerned about a patchwork of plans that can individually exceed a national baseline. As previously discussed, businesses have dealt with uneven environmental regulation for decades. These concerns will affect businesses with every decentralized environmental regulation on the books, but the national emissions floor provides enough cover to ease such anxieties and establish some uniformity and predictability. However,

a nationally uniform policy will not emerge under a Coordinated Regionalism approach, and this very feature of the plan is central to providing flexibility and local specificity to the states.

State Incentives. Some will contend that this subnational framework will allow each region to create the weakest possible plan that still meets the national targets, rather than taking bold and aggressive action. Such a scenario would ultimately lessen the environmental impact of Coordinated Regionalism (as compared to a national plan), since each region would have the ability to simply meet the bare minimum of standards and give away an excess of special breaks to enable polluters within their borders. The question, then, is whether a decentralized approach will result in a series of neutered plans that ultimately has the same or lesser impact than a national one. In reality, because each state and region will want to reach its goals quickly in order to reap the economic benefits associated with aggressive reductions, regional plans will likely take a more ambitious approach, while circumventing the series of regional giveaways that would drag down the overall environmental impact of a national regime. As described in Chapter 6, by avoiding the needs of other regions, each subnational plan can create a system individually stronger than that of a national regime. Therefore, in order to remain competitive and gain the benefits of aggressive action, regions will have few incentives to neuter their plans.

Regional Size. The case studies have examined the size of the current regions and noted that some programs, such as WCI, may face difficulties because the regions are still too large for efficient regulation. While keeping the number of regions to a minimum would decrease variability and be easier to manage, a greater number of small, finely tailored regional plans could be more effective at reducing the maximum amount of greenhouse gases. However, a large number of small regions would create a bigger bureaucracy, make non-uniformity a more significant issue, and complicate the ability to create inter-regional linkages. Certainly an

optimal level exists where each region is large enough to create an efficient market and small enough to be geographically and politically specific. Ultimately, finding that line is up to the states, which could split up or merge regions that prove to be of troublesome sizes.

Undoubtedly questions still remain. This proposal is not meant to be a final piece of legislation, but rather a starting point for a new framework for American emissions reduction policy. Specific details still must be hammered out, such as what types of energy count, where nuclear power and interstate transportation fit into a capped economy, and what the bureaucracy associated with Coordinated Regionalism would look like. However, these questions and debates are all second fiddle to an agreement on a basic policy structure. If Coordinated Regionalism can be the basic mechanism, I am confident that consensus on individual issues can be reached in order to make the plan work.

A Paradigm Shift

Given the failure of the federal government to institute an emissions reduction policy and the unlikely odds of Congressional agreement on a national scheme, we must reevaluate legislative expectations. Coordinated Regionalism takes advantage of the benefits of specific regional approaches, while incorporating the legal muscle of the federal government to ensure policy success. Breaking the nation up into a series of regional policies that follow the cap and trade frameworks modeled by RGGI, WCI, and MGGRA may be the only viable and feasible way for the United States to assume its responsibility to reduce anthropogenic greenhouse gas emissions and mitigate global climate change. This policy will require a major paradigm shift away from the mentality of regional plans existing solely to inform the national debate. Rather,

federal lawmakers must choose to defer to the expertise of state and regional policymakers. These subnational leaders can then craft a series of specialized plans that will incorporate regional variation *and* substantially reduce national emissions.

While a shift to decentralized expectations would be major for climate change policymaking, its basic premise is not new to American government. The Clean Air Act employs a similar model by allowing states to implement and augment federal pollution standards. This subnational approach has worked for one of the seminal pieces of American environmental legislation, and, with some creativity and a willingness to try a different approach, the Clean Air Act model could be adapted to deal with climate change. Hence, while many specific details remain to be worked out, the Coordinated Regionalism framework provides a new, yet somewhat tested, option for policymakers seeking a way to implement cap and trade on a country as large, geographically diverse, and politically tumultuous as the United States.

Endnote

[1] *Regional Greenhouse Gas Initiative: Memorandum of Understanding*. Regional Greenhouse Gas Initiative, Inc. 20 Dec 2005. 14 Dec. 2010. <http://rggi.org/docs/mou_final_12_20_05.pdf>. 10.

[2] Posner, Paul L. "The Politics of Vertical Diffusion: The States and Climate Change." *Greenhouse Governance: Addressing Climate Change in America.* Barry G. Rabe, ed. Brookings Institution Press: Washington, D.C., 2010. 73-98. 82.

[3] Rabe, Barry G. *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy*. Brookings Institution Press: Washington, DC, 2004. 27

[4] Rabe, 2004. 154.

[5] McCarthy, James E. "Highway Fund Sanctions for Clean Air Act Violations." Congressional Research Service Report, 97-959 ENR. Accessed by: National Council for Science and the Environment. 22 Oct. 1997. 1 Feb 2011. <http://ncseonline.org/nle/crsreports/transportation/trans-9.cfm>.

Conclusion
Charting the Course: Hope Resides in the Statehouse

With the impending threat of climate change facing the United States and the globe, and with a lack of national American leadership on reducing greenhouse gas emissions, the time has arrived to reassess the policy options and settle on a solution that takes advantage of the work already being done in statehouses across the nation. A one-size-fits-all national program has proven politically unpalatable and would ultimately be neutered by the needs and demands of self-interested states and regions. However, an approach that fosters the space for innovation and experimentation and allows states to design policies that protect their regional interests has the potential to work – politically and environmentally.

Coordinated Regionalism serves as a hybrid policy that harnesses the enforcement power of the federal government and encourages the creatively tailored features of regional programs. This new approach has the potential to create a cap and trade system that more wisely divides up the country's vast area and utilizes subnational environmental policy expertise. Coordinated Regionalism also provides an opportunity for broad bipartisan and geographic support, and it leaves the door open to an inter-regional web of climate change programs working together across the United States. Most importantly, this innovative framework achieves the end goal of reducing emissions for the entire country in a reliable and uniquely American way.

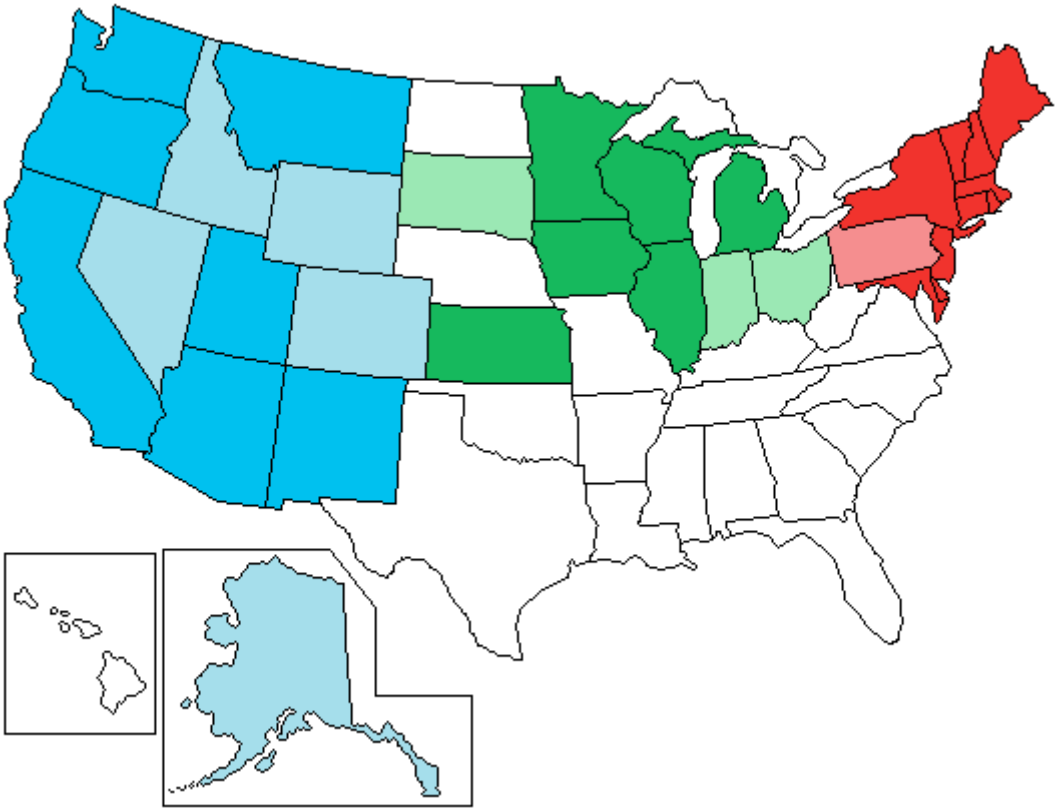
Critics will argue that there is a plethora of research showing major deficiencies in state and regional plans and that because emissions know no borders, a regional cap and trade regime is inherently inferior to a national one. There are certainly policymaking roles that will always be best filled by the federal government, but climate change mitigation does not appear to be one of them. This project has highlighted the many benefits of regionalism, and, for all the supposed

advantages of a national scheme, there are also serious flaws and a notable failure at political success. Some will contend that there are also historical precedents that cast doubt over a regional or piecemeal approach to national issues. These are legitimate concerns, and policymakers, experts, and watchdog groups must be on the lookout for signs of such implementation problems. However, because American environmental policy has consistently relied on decentralization and state implementation, taking a similar approach to climate change mitigation is worth a try. Looking outside of the expected policy path and embracing regionalism will offer policymakers a new avenue to pursue and a series of options to remake the face of American climate change policy. By focusing on shoring up regional plans, the United States can embrace the innovative ideas of its state officials for the benefit of the whole nation.

Regional cap and trade programs are an example of state innovation where the policy results do not produce a national blueprint. Rather, state experience with climate change policy calls upon the national government to recognize the genius of a decentralized approach. RGGI, WCI, and MGGRA have demonstrated just how comprehensive regional plans can be and how their differences are even more important than their similarities. As alluded to in the Introduction, Tip O'Neill's remark that "all politics is local," *can* therefore be extended to the climate change debate where: all politics is regional. The importance of state and regional differentiation has led the debate about American emissions policy to an unlikely place; instead of relying on Congress to handle this massive policy question, hope for climate change mitigation lies in the statehouses and governors' mansions across the nation. Coordinated Regionalism takes the best ideas of the regional approach and pairs them with the national power of enforcement, resulting in maximum environmental impact and minimum economic distress. If climate change legislation can meet those standards, it will be a true American success story.

Appendix I

United States Regional Cap and Trade Programs



Key

	RGGI Signatory		MGGRA Observer
	RGGI Observer		WCI Signatory
	MGGRA Signatory		WCI Observer

Appendix II

	RGGI	WCI	Midwestern Accord
Participants	**USA:** CT, DE, MA, MD, ME, NH, NJ, NY, RI, VT	**USA:** AZ, CA, NM, MT, OR, UT, WA **CAN:** BC, ON, MB, QC	**USA:** IL, IO, KS, MI, MN, WI **CAN:** MB
Program Status	Emissions covered beginning Jan 2009. First auction held Sept 2008.	Will commence Jan 2012. Released design document in Sept 2008 containing agreed-upon program parameters. Model Rule under development.	Will commence Jan 2012. Draft final recommendations released May 2009. Will finalize recommendations after regional economic modeling completed summer 2009. Model Rule under development.
Program Scope	**Gases:** CO_2 emissions. **Sources:** Large electric generators. **Coverage:** 28% of CO_2 emissions.	**Gases:** All 6 Kyoto gases. **Sources:** In 2012 — electricity generators and large industrial sources. In 2015 — expanded to emissions from residential, commercial, and other industrial combustion, and transportation fuels. **Coverage:** In 2012 — 50% of emissions. In 2015 — nearly 90% of emissions.	**Gases:** All 6 Kyoto gases. **Sources:** Economy-wide including: electric, industrial, residential, commercial, transportation combustion, and industrial process emissions. Manitoba will phase-in coverage in manner similar to WCI. **Coverage:** Roughly 85% of GHG emissions. Disparity in coverage between Midwestern Accord & WCI is primarily due to differences in regional sectoral emissions portfolios.
Reduction Targets	2009–2014 cap set at level roughly equal to historical emissions. 2015–2018 cap declines 2.5% per year, resulting in 10% reduction from 2009 budget.	Regional average reduction of 15% below 2005 levels by 2020 (jurisdiction targets vary).	20% below 2005 levels by 2020 (may decrease to 18% if allowances released from cost containment pool). 80% below 2005 levels by 2050.
Offset Usage Allowed	50% emissions reduction from BAU projections, which is equivalent to 3.3% of compliance obligation. More offsets allowed if allowance prices rise above price thresholds.	No more than 49% of emissions reductions relative to starting cap.	20% of compliance obligation. May expand if allowance prices rise above price thresholds. Note, price thresholds not yet determined.
Auction Goals	25% of allowances are allocated for consumer benefit or strategic energy purpose. Auctions were envisioned to be primary tool for this. As states began to implement RGGI, use of auction increased. Now, over 85% of the region's allowances will be auctioned in the early stages of the program.	10% auction minimum at start. Increase to 25% minimum by 2020. Aspirational goal of 100%.	May vary jurisdiction to jurisdiction. The Advisory Group recommended the following: 100% of transportation and merchant generator allowances, unless entity demonstrates inability to pass through costs. Initially 5% of industrial sector and 10% of electric sector allowances auctioned, remaining industrial and electric sector allowances sold to covered entities for a "modest fee." This equates to an auction of about 1/3 of all allowances and sale of the remaining 2/3. The Advisory Committee recommended a shift to a full auction over time.
Use of Allowance Value	Varies jurisdiction to jurisdiction. To date, majority of auction revenue directed towards energy efficiency programs.	Not established in September design document.	May vary jurisdiction to jurisdiction. The Advisory Group recommended that allowance value go towards: (1) accelerating transformational investment in technologies and infrastructure (2) cost mitigation for end-users, particularly low-income consumers and energy intensive industry (3) adaptation
Cost Containment	3-year compliance period with unlimited banking, early action credit, offsets, and price triggers. First price trigger expands use of offsets to 5% of facility compliance obligation. Second price trigger expands use of offsets expand to 10% of facility compliance obligation, increases the compliance period, and allows facilities to use international offsets.	3-year compliance period with unlimited banking, early action credit, and offsets.	3-year compliance period, unlimited banking, limited borrowing, early action credit, offsets, and price thresholds. Market Oversight and Cost Containment (MOCC) Committee will establish upper and lower price thresholds. If prices are too high, allowance borrowing and offset limits will be expanded. If prices are too low, allowance borrowing will be curtailed and offset limits tightened. If allowance prices substantially exceed the price threshold, allowances will be released from a reserve pool. If allowance prices are extremely low, the MOCC will withdraw allowances from the market and put them in the reserve pool.

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