

Straighten Up and Price Right: The Political Life and
Times of a Carbon Tax in the United States

by

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For Cade, my light

For Steve, my compass

For Walt, my Gandalf

Abstract

This thesis in Government explores the coalitional and institutional politics of carbon pricing initiatives in the United States. It draws upon the political history of U.S. environmental policy, polarization studies, institutional theory, climate change denialism, and a series of interviews with various political actors to explain the current political situation surrounding carbon pricing. It is written with emphasis on the contemporary moment for climate change policy based on the assertion that the Environmental Protection Agency's impending authority over greenhouse gas emissions has made national climate action as close to inevitable as it has ever been.

In recent years, the consensus within the climate policy community has shifted away from cap-and-trade in favor of a carbon tax for its simplicity and efficiency. Yet despite its transparency, concerns about a carbon tax perpetuate, including: that the tax would be regressive and harm the poor, that it would be costly and harm the economy, that "big oil" would fight any climate policy, and that the American right is committed to inaction on climate change. Some of these concerns are overstated, others simply lack empirical support. This thesis aims to clarify what a carbon tax would actually look like, provide an account of how carbon pricing is actually understood among those who would ultimately design such a policy, and in so doing present an image of a modern climate change politics which has caught up with scientific and economic consensus – or close enough.

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Chapter I: Introduction and Summary

Your role, then, is to connect the dots. At best, it's been so fragmented... People don't want to see a problem without solutions. – Carol Werner¹

This thesis is the culmination of a little more than three years of researching climate change as a political issue. In this sense, it is a personal justification of the focus I've given to the topic through my time as an undergraduate student rather than following a broader liberal arts track. In another, it is a synthesis of what I feel I've learned by approaching a global threat which troubles and impassions me from the perspective of a wide variety of disciplines. Ultimately, though, it is a work on a particular potential policy as a foundational component of serious government action on climate change: the carbon tax.

In the summer of 2015, I spent the months of June and July in Washington, D.C. conducting interviews on the politics and design of a carbon tax in the United States. By the project's end, I had interviewed twenty-three people across sixteen policy organizations and two congressional offices (one in the House, one in the Senate). The organizations ranged from mainline environmental advocacy and policy groups to libertarian and free market think tanks, joined by their common interest in bringing an American carbon tax into being. I also was able to attend several congressional briefings and panels, Citizens' Climate Lobby's international conference, and (including a return trip in December) two meetings of the Carbon Pricing Initiative. The Carbon Pricing Initiative dialogues bear special mention. Attended by a veritable who's who of carbon tax insiders, PCI dialogues operate

¹ Personal interview, Carol Werner, Environmental and Energy Study Institute, Washington, D.C., 3 June 2015.

under Chatham House Rule, designed to promote openness of discussion and attendance by allowing the sharing of information from the meeting, but not the identity of those present or the attribution of quotes. That is to say, for my methodological purposes, that I have been to the inner sanctum but I can't fully talk about it. I conducted a similar interview project on the Irish carbon tax in Dublin, Ireland in the summer of 2013, which served as a model and background for this research. For this thesis in the American Politics concentration, my Ireland notes are not directly cited here, but those interviewed are credited.

I did not choose to write so extensively on carbon pricing because I believe climate change should supersede all other political concerns. Indeed, other national matters may well be more urgent, if only because greater political feasibility at present might mean achieving effective policy where prioritizing climate action might for the moment prove fruitless. Instead, my work on climate policy is rooted in a threefold fascination with the unique qualities of climate change as a political problem and the carbon tax as a solution.

First, the far-reaching effects of climate change across both space and time are profoundly novel. The emergence of threats widely considered to be irreversible, like sea level rise and more extreme weather patterns, have prompted lamentation that the planet will never return to its "natural" balance. Regardless of one's feelings on the ecological epistemology of what is natural, it is clear that greenhouse gas emissions from human combustion of fossil fuels have created a substantial, if not massive, intergenerational disparity on climate and resource stability. Within the current generation, the inequity of climate change's diffuse impacts globally give the issue a

justice dimension which further implicates the developed, polluting societies of the world in the prolonged precarity of the rest. The dynamic of subjugation and struggle is nothing new to mankind, but never before has such slow violence been exacted from afar. This reality, only relatively newly understood, has generated discussion of climate change as an existential crisis for humanity at the species scale. The historian Dipesh Chakrabarty, expresses it well:

Climate change poses for us a question of a human collectivity, an us, pointing to a figure of the universal that escapes our capacity to experience the world. It is more like a universal that arises from a shared sense of a catastrophe. It calls for a global approach to politics without the myth of a global identity, for, unlike a Hegelian universal, it cannot subsume particularities. We may provisionally call it a ‘negative universal history.’²

No threat in human or natural history has cast so large and long a shadow as climate change.

Second, refusal to accept climate change as a real phenomenon, threat, or political concern – a mindset commonly referred to as climate change denialism – has evolved, mainly through organized means, into a widespread position in the United States. Indeed, climate change denial is more common in the U.S. than in any other developed nation. Explanation of this politicized hostility to scientific consensus is a captivating study on the power of fact and belief in politics, and in American politics in particular. The ways in which such denialism is rooted exclusively in American conservatism and the Republican Party, which is not to say all self-proclaimed conservatives hold such a view, are of special interest. The implications of the involvement of corporations and political ideologues in propagating denial of climate change through exorbitant money flows opens further questions of democratic

² Dipesh Chakrabarty, “The Climate of History: Four Theses.” *Critical Inquiry* 35.2 (2009): 197-222. 222.

integrity and the intersection of public information, understanding, and welfare. To espouse denial or even doubt of the existence or importance of an empirically supported threat implicating all polities globally is an unusual tactic at best and a frightening one at worst.

Lastly, the elegance, transparency, and sensibility of a carbon tax make it stand out as an extraordinarily rare example of a policy with far greater promise than risk, capable of implementation with little to negative administrative cost, and poised to bring about the critical first steps toward mitigating planetary catastrophe. Few, if any, environmental policies offer such low cost for their ecological benefit. Few, if any, fiscal policies promise such double dividend potential or economic win-win outcomes. I can think of no political instrument more resoundingly recommended by those who study its relevant fields – in this case, climate scientists and economists. In the context of climate change policy specifically, no other policy option offers the same opportunity for bipartisan support, a political necessity in today’s legislative environment.

In short, I believe that a carbon tax, effectively designed, is as close to perfect as a national climate change policy in the United States could ever hope to be. This thesis, in broad strokes, is an exploration of how the current challenging U.S. political situation surrounding climate change policy came to be, discussed in Chapter II; an explanation of carbon pricing, both carbon trading and a carbon tax, and why a carbon tax is superior, in Chapter III; and what current trends on the issue mean for the prospects of a carbon tax in the near future and beyond its hypothetical implementation, explored in Chapter IV. It is perhaps foremost a project of hope for

climate change action and by extension for as habitable a future as might still be possible.

Lastly, this work is not a comprehensive study of American climate change politics. Such an analysis would fill a few hundred pages more with ease, and has. Instead it emphasizes, concisely I hope, those matters most essential to carbon pricing discussion. As such, several topics of interest which I have written on at greater length previously are here given briefer, more digestible treatment, not to be overlooked. The remainder of this introductory chapter may serve as an executive summary, though it omits substantial details.

The past four years have been an exciting time to follow the issues surrounding a carbon tax. Since I first began my work on the policy in earnest in the summer of 2013 following my freshman year, discussion of a carbon tax in the United States has intensified substantially in mainstream media and within Washington, D.C. I am now fairly convinced that if the political forces that have come into play since that time do not culminate in a national U.S. price on carbon emissions, what is now the near future will be looked back on as the time we nearly had one. The odds are long, but the pieces are there, where previously no serious hope was to be expected for carbon tax advocates.

The reason for a carbon tax's emerging promise is a convergence of movements and circumstances, disjointed but mutually reinforcing. These forces make up a political narrative of climate change policy, one which begins in the so-called Environmental Decade. The passage of the National Environmental Policy Act, Clean Air Act, and Clean Water Act in the early 1970's on a surge on populist

environmental concern marked the creation of the cornerstones of American environmental law. Aside from a few significant amendments over the years, these statutes have remained the center of U.S. environmental policy over the decades since. Notably, the most significant environmental concern to have developed in the interim is humans' understanding of the role of greenhouse gas emissions in the worsening problem of global warming and climate change.

As a problem related to atmospheric emissions, carbon dioxide (CO₂) – the primary greenhouse gas emitted through the combustion of fossil fuels – falls under the authority of the Clean Air Act (CAA), which was written almost two decades before James Hansen's historic testimony on global warming to the U.S. Senate in 1988.³ The CAA's emphasis on localized pollutants and particulates serves the diffuse problem of climate change poorly. In 2003, the Environmental Protection Agency under President George W. Bush ruled that the CAA did not grant it authority to regulate carbon dioxide as a pollutant for climate change purposes. The state of Massachusetts, joined with eleven other states and a host of environmental organizations, filed suit to contest this ruling and affirm the status of CO₂ as an air pollutant under the CAA and the EPA's consequent responsibility to regulate greenhouse gases as a threat to public health and welfare. The case *Massachusetts v. Environmental Protection Agency* was decided in 2007 by the Supreme Court in the

³ Philip Shabecoff, "Global Warming Has Begun, Expert Tells Senate." *The New York Times*, 23 June 1988. <<http://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html?pagewanted=all>>

petitioners' favor.⁴ By this decision, the EPA was required to address carbon dioxide emissions under its Clean Air Act authority.

Many policymakers found the prospect of EPA technology-based standards – so called “command-and-control” regulations – as the frontline of America’s climate change response to be an undesirable prospect. In 2009, Democratic Representatives Henry Waxman of California and Ed Markey of Massachusetts sponsored in the House of Representatives the American Clean Energy and Security Act, unfortunately best known as Waxman-Markey rather than ACES. The bill would have created a cap-and-trade system analogous to the Emissions Trading Scheme the European Union has had since 2005, commonly called the EU ETS. With the avid work of the Pew Center on Global Climate Change,⁵ Waxman-Markey was designed with the input and ultimate support of many major American businesses. Its resulting allowances system, payouts, and preemption of EPA authority left a sizable number of House Democrats and on-looking environmental organization concerned. Yet more Democrats came from rural or coal districts and as such found little to like in the bill. Waxman-Markey narrowly passed in the House with a vote of 219-212, with 44 Democrats against and 8 Republicans for. In the Senate, Democratic Majority Leader Harry Reid saw his party's split base on cap-and-trade, looming reelection concerns, and the Obama administration's focus on the Affordable Care Act and decided that Waxman-Markey would never come to a vote.⁶

⁴ *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007)

⁵ Known today as the Center for Climate and Energy Solutions, or C2ES.

⁶ Carl Hulse and David Herszenhorn. “Democrats Call Off Effort For Climate Bill in Senate.” *The New York Times*, 22 July 2010. <<http://www.nytimes.com/2010/07/23/us/politics/23cong.html>>

The U.S. was thus left without a national climate change policy. Cap-and-trade's failure paired with a Tea Party powered Republican takeover of the House in 2011 meant what was before a legislative priority which ranked not far behind health care fell off the chamber's political map. Meanwhile, the *Massachusetts v. EPA* ruling demanded the agency make a serious effort at addressing greenhouse gas emissions. In the absence of a new statute, climate change was now the executive branch's problem. This outcome, as Tim Giuliani at the Center for Climate and Energy Solutions recounted in an interview, “was exactly what Waxman-Markey was meant to prevent.”⁷ Without hope of climate change legislation originating in or passing the Republican House, Democratic efforts shifted to supporting the White House’s emissions reductions plan. That plan, announced more than five years later in August of 2015, is today known as the Clean Power Plan, or CPP.

Presently, the Democratic Party is poised to defend the CPP and EPA regulatory authority over carbon dioxide emissions, having abandoned the loftier aims for national climate change policy of just a few election cycles before. Economists and other policy analysts concerned with climate change have not abandoned such efforts, however. In the eyes of many climate change policy thinkers, the Obama administration was forced to turn back to a worst case scenario: using the aging Clean Air Act for a purpose it can be interpreted as *meant for* but which it was certainly not *designed for*. Intellectuals and environmental organizations interested in carbon pricing, many of whom withheld their misgivings as a less than ideal cap-and-

⁷ Personal interview, Tim Giuliani and Jason Ye, C2ES, Washington, D.C., 22 July 2015

trade effort came and went in Congress, started in on what they do best – exploring alternatives.

In the field of environmental economics, the alternative has long been clear. Command and control EPA regulation of greenhouse gases promises to be clunky, expensive, and difficult to enforce. Even Waxman-Markey’s hypothetical U.S. cap-and-trade succumbed to the same cronyism that has caused the EU ETS substantial prices failures and global justice issues. A carbon tax, however, has long been preferred by economists of various ideologies, beloved for its efficiency, transparency, and double dividend potential. By imposing a price on fossil fuels based on their potential emissions content at their source (referred to as “upstream”), the social cost of climate change is reflected across the economy. By annually raising that cost, the ultimate effect is a shift in investment and consumption which favors cleaner and more efficient technologies and practices. Many major U.S. businesses already incorporate a carbon price in their financial projections, called a “shadow price.” The list includes Google, Microsoft, Exxon, and Disney.⁸ These companies want a carbon price to provide broad incentives for more ecological business models. Since today polluters essentially dump greenhouse gases into the atmosphere for free, those who fail to take advantage may benefit the climate, but are hurt competitively. A carbon tax is often spoken of as “leveling the playing field” for energy and technologies by removing the artificial and dangerous advantage possessed by carbon intensive practices. It also has the advantage of being the most economically efficient climate change policy option.

⁸ “Use of Internal Carbon Price by Companies as Incentive and Strategic Planning Tool: A Review of Findings from CDP 2013 Disclosure.” *CDP*. December 2013.

Current hope for achieving a carbon tax in the U.S. stems mainly from growing support among conservative elites and libertarian thought leaders. Many economists considered conservative have suggested a carbon tax for a long while as a highly effective free market policy with the potential to discourage a bad (i.e. carbon pollution) and encourage goods (i.e. labor and wealth) simultaneously. However, the political will to consider it seriously has been stymied by a Republican Party famous at present for its opposition to both taxation and action on climate change.

In 2009, in the wake of Waxman-Markey's failure, Republican Representative Bob Inglis of South Carolina introduced a carbon tax bill in the House in the hope of offering a climate change policy which could appeal to conservatives while proving a more effective solution than the Democrats' cap-and-trade. It began at \$15/ton and would rise to \$100 over 30 years, using the revenue to reduce Federal Insurance Contributions Act taxes for Social Security and Medicare. He argued the party should follow the science and use the model economists of all ideologies had long recommended to achieve a climate change policy which favors free enterprise.⁹ He lost his seat in the 2010 midterm election.

In the time since, Inglis has become a martyr for conservative climate change realists. In 2012 he founded the Energy and Enterprise Initiative at George Mason University, "committed to building public understanding of free enterprise and its promise to solve energy and climate challenges."¹⁰ In 2014 it launched an effort to build conservative leadership on climate change called RepublicEn: energy optimists,

⁹ Bob Inglis and Arthur B. Laffer, "An Emissions Plan Conservatives Could Warm To." *The New York Times*, 27 December 2008. <<http://www.nytimes.com/2008/12/28/opinion/28inglis.html>>

¹⁰ "Who we are." *RepublicEn*. <<http://republicen.org/about/index>>

climate realists. Bob's move seemed to be of a moment. Also in 2012, a D.C. arm of the Heartland Institute – easily the world's largest climate change denial think tank – broke off on the issue of climate and became the R Street Institute, quickly taking up carbon tax advocacy and employing the staffer most responsible for the Inglis bill. 2012 furthermore saw the defection of Jerry Taylor from the libertarian Cato Institute over internal disputes regarding the influence of the Koch Brothers on the organization. In early 2015, Taylor founded the Niskanen Center to better engage libertarian interests on Capitol Hill, with a carbon tax at the forefront of its agenda. Representation from all three organizations has become reliably present at insider discussions on the carbon tax in Washington, as their efforts offer the best hope of opening the possibility of bipartisan climate change policy – a must in a Congress expected to remain divided.

The need for Republican carbon tax support means a need for revenue neutrality – using all of the money to offset other taxes – to comply with the Americans for Tax Reform's Taxpayer Protection Pledge, commonly called the "Norquist Pledge" after ATR's founder Grover Norquist, signed by so many G.O.P. members of Congress. Where to recycle the revenue is a critical political question with three main lines of argument. First is offsetting the corporate income tax, preferred by the party that brought America Reaganomics and promising greatest efficiency in the sense that it would most behoove GDP, though who that additional wealth reaches is a reasonable question. Second is offsetting income taxes to return revenues more directly to the people and encourage employment. This method sees the double dividend reach a great number, but like the first requires additional

measures to protect against regressive effects on the poor. Third and least liked by economists is fee-and-dividend, a direct flat rate return of revenue to all American citizens. While fee-and-dividend far from maximizes a carbon tax's double dividend potential, Citizens' Climate Lobby – the country's largest climate change policy lobbying organization – prefers it for its transparency, simplicity, benefit to the poorest recipients, and potential for populist support. Side options include directly paying down the federal debt (interest is surprisingly expensive) and directly funding Social Security and Medicare budgets facing insolvency.

Realistically, a carbon tax that makes it through Congress would be some amalgamation of these options. While economists have their preferred methods with regard to efficiency and politicians have preferences based on preexisting political interests, the most important thing to the priority of reducing greenhouse gas emissions in a meaningful way is getting *a price* urgently. From a political economy perspective, the most important thing is using the policy's tax offset potential as an avenue to tax reform, sweeping the carbon tax up in a broader effort to reduce waste and increase accountability. Historically, such efforts attract bipartisan cooperation and are most successful in the early days of a presidency. While looking to the looming 2016 presidential election may seem a distant hope for a carbon tax, it is to be hoped for nonetheless as its advocates, new and old, continue to coalesce.

Chapter II: Climate Policy in Context

Climate change as a political issue is deeply tangled. To discuss solutions to the presently disastrous atmospheric concentration of greenhouse gas emissions implicates matters of science, economics, social justice, global influence, and partisan polarization all at once. Although it is often spoken of as the greatest threat facing the future of the human species, climate change sits low on national issue priority survey results, if it ranks at all.¹ Environmental issues generally have long been neglected by a series of complacent and increasingly divided Congresses. The U.S. might have had a national climate policy in 2009 in the form of cap-and-trade, but the bill never reached a Senate vote. Meanwhile, the very acknowledgement of the phenomenon of climate change has been politicized and polarized into a divisive partisan issue fueled by denialist interests. However, recent developments in the process of climate action outside of Congress have brought the prospects of national climate policy back into focus, perhaps opening a path beyond the considerable obstacles explored in this chapter.

The Languishing Legacy of U.S. Environmental Policy

Nobody thinks national climate legislation is inevitable anymore. – Tim Giuliani

Despite the mounting ecological disasters surrounding natural gas extraction, invasive species, greenhouse gas emissions, and the Environmental Protection Agency's diminished capacity to handle them all, the U.S. Congress rarely comes to a

¹ "Most Important Problem." *Gallup*. <<http://www.gallup.com/poll/1675/most-important-problem.aspx>>

vote on bills involving environmental matters, let alone innovative environmental statutes. This has left the American executive branch, and the EPA in particular, to address proliferating environmental crises through authority and interpretations derived from laws largely written in the early 1970s and not appreciably altered since 1990.

Environmentalism as a political force in the United States is commonly traced back to the publication of conservationist Rachel Carson's *Silent Spring*, initially serialized in *The New Yorker* before becoming a bestseller in 1962. Her book, which largely detailed the detrimental ecological impacts of pesticide use, served as an entry point to environmental concerns for a great number of previously uninitiated Americans. Situated within broader unrest surrounding the American war in Vietnam, this newfound populist support for government action on the environment quickly found channels of mobilization which ultimately resulted in the creation of the EPA. *Silent Spring* did not generate public concern from the æther, however: "Surely no factor was more pivotal in the birth of EPA than decades of rampant and highly visible pollution. But pollution alone does not an agency make. Ideas are needed – better yet a whole world view – and many environmental ideas first crystallized in 1962.²" Those ideas would culminate and manifest substantially in federal policy in the following decade.

On April 22, 1970, the inaugural Earth Day, roughly twenty million people across the U.S. participated in mass demonstrations for environmental reform. This unprecedented display of public concern for environmental health initiated the

² Jack Lewis, "The Birth of EPA." *EPA Journal*. November 1985. <<http://classic-web.archive.org/web/20060922192621/http://epa.gov/35thanniversary/topics/epa/15c.htm>>

“Environmental Decade,” a period of environmental policy action never seen before or since:

By the end of 1980, bipartisan majorities had passed an unprecedented body of environmental protection legislation. Over a dozen new statutes set ambitious goals for clean air and water and safe drinking water, and established far-reaching new regulations for pesticides, toxic substances, and solid and hazardous waste management... Both Republican and Democratic legislators supported these laws, and presidents of both parties added their own initiatives.³

President Richard Nixon, taking note of the swell of populist environmental support that would culminate in Earth Day later that year, signed the National Environmental Policy Act on national television on New Year’s Day 1970 before announcing his administration’s large environmental ambitions. Before the year was out, the Nixon White House ordered a large executive reorganization consolidating all of the pollution management programs of other agencies into one dedicated agency. The Environmental Protection Agency, or EPA, officially went into operation on December 2, 1970, set to carry out the substantial new statutes of the Environmental Decade.

The policies and regulations that began in the 70s have been successful by almost any standard and warrant some selective recounting. Fittingly, the insecticide known as DDT, the primary subject of Carson’s *Silent Spring*, received a swift banning by the EPA in 1972. Another of the earliest priorities of the EPA was the phasing out of leaded gasoline, emissions from which were shown to harm human development and nervous systems. Through the provisions of the Clean Air Act, and under the international environmental treaty the Montreal Protocol, the prohibition of

³ Richard N. L. Andrews, *Managing the Environment, Managing Ourselves: A History of American Environmental Policy*. New Haven: Yale UP, 1999. 229.

chlorofluorocarbons used in refrigeration and aerosols prevented further depletion of the atmospheric ozone layer. Although Los Angeles, California continues to be shrouded by smog, the haze of today is tame relative to its choking presence before the Clean Air Act. And certainly no instance of water pollution since the Clean Water Act's passage has been nearly as egregious as the infamous Cuyahoga River in northeastern Ohio, infamous for being set ablaze on multiple occasions until reaching national attention in 1969.⁴

The most recent major success of U.S. environmental policy – though recent here means more than a quarter century old – was the cap-and-trade program designed under President George H. W. Bush to address sulfur dioxide (SO₂) emissions from coal-fired power plants causing acid rain across the northeastern states. The trading program (the mechanism of which is explained in Chapter III) was created through amendments to the Clean Air Act in 1990 and resulted in swift emissions reductions at very low cost compared to command-and-control alternatives. Thanks to this success, some policymakers have been eager to replicate such a program to address carbon pollution, the most significant effort at which – the bill known as Waxman-Markey – will be discussed later in this chapter. Retrospective economic and political analysis of the SO₂ program, however, tells a messier story than one of unmitigated policy intervention success. Schmalensee and Stavins, in examining the ironies of the program's legacy note: "It can be argued that the SO₂ cap-and-trade system provided valuable stability, but the legislation also made it impossible to make what would have been responsive, effective, and efficient

⁴ Tom Randall and Eric Roston. "World's Top Environmental Success Stories." *Bloomberg*, 17 Sept. 2012. <<http://www.bloomberg.com/slideshow/2012-09-18/world-s-top-environmental-success-stories.html>>

changes in the policy.⁵” Such a limitation would carry a much greater risk in CO₂ trading scheme, as difficulties in the European Union’s scheme (explored further in Chapter III) illustrate. They also observe the curious political hypocrisy of the Republican Party’s position on the model since Bush Sr.’s presidency:

What appeared in 1990 to be a quintessential moderate Republican approach to environmental protection— cap-and-trade— generated great hostility from conservatives 20 years later. In the process of opposing Congressional climate policy initiatives in 2009 –2010, conservatives demonized cap-and-trade proposals as “cap-and-tax” and may have thereby tarnished this market-based approach to environmental protection for years to come.⁶

SO₂ trading is an unusual example of a highly successful policy design which poses potential risks if applied to other contexts and has since lost the support of the political coalition which brought it into being.

Aside from the relatively recent resurfacing of cap-and-trade as a policy option for greenhouse gas emissions, environmental policy successes do not tend to retain the attention of the general public. As *Bloomberg* makes concise, “Environmental issues follow certain patterns – the questioning of science, the questioning of proposed solutions and sometimes, the quiet disappearance of the problem when collective action works.⁷” If the U.S. achieves a successful climate change policy, it may well share a similar fate. Despite no lack of environmental concerns in the U.S. since 1990, of which climate change stands out, no new national environmental laws have been made to address them. On environment, policy successes of the past have created a lulling effect. Statutes like the Clean Water Act

⁵ Richard Schmalensee and Robert N. Stavins. “The SO₂ Allowance Trading System: The Ironic History of a Grand Policy Experiment.” *Journal of Economic Perspectives* 27.1 (2013): 103-22.

⁶ Ibid.

⁷ Randall & Roston.

and Clean Air Act are sweeping in scope, and their authority has evolved immensely over time through court decisions. This had led to an attitude of complacency toward environmental law based on the understanding that most environmental concerns can be addressed through existing systems or new ones created via interpretation of the broad powers of statutes which are now nearly a half century old. Those decisions, however, are largely the result of turning to the judiciary to answer questions to which the law provides no ready satisfactory answer. In many such cases, the CAA and CWA were kept purposefully ambiguous to emphasize the span of their authority, inviting legal interpretations in favor of environmentally positive outcomes. However, by Alexander Hamilton's own design "The judiciary... has no influence over either the sword or the purse."⁸ Though the Court may issue judgements, it possesses no means of compliance enforcement over the EPA or political influence over policymakers. After 45 years of a patchwork, regulation-reliant approach to addressing environmental concerns, such open questions on environmental problems could well be better met with policy designed specifically to address them – policies which, by and large, would be more economically efficient and pose less burden on both regulators and those regulated.

⁸ Alexander Hamilton, "The Federalist No. 78." *Independent Journal*, 14 June 1788.

Polarization and Denial

If talking climate worked, we would've had a policy in the past 26 years.
– Danny Richter⁹

While it's true that Congress hasn't been in the business of passing new environmental legislation in the past few decades, the number of significant new statutes of any sort has been notably reduced. Many political scientists attribute this stagnation to the phenomenon of polarization: representatives taking more ideologically extreme positions which are exhibited in their voting and rhetoric. In America's two-party system, this means the left shifts further left and the right shifts further right. Evidence suggests that the right has become significantly further right than vice versa, a phenomenon Mann and Ornstein term "asymmetric polarization,"¹⁰ especially troubling for environmentalists since American conservatism has come to firmly hold opposition to environmental protection efforts.¹¹ This polarization trend compounds with the politicized issue of climate change to great detriment. The U.S. today possesses the special distinction of being the developed nation least convinced of the existence and threat of climate change.¹² What's more, the uniquely American brand of climate change denial is practically exclusive to Republican representatives and voters. To have one party deny the need for government action on an issue at all, at least publicly, makes climate change a special political case of the worst order.

⁹ Personal interview, Danny Richter, Citizens' Climate Lobby, Washington, D.C., 24 July 2015

¹⁰ See Thomas E. Mann and Norman J. Ornstein, *It's Even Worse Than It Looks: How The American Constitutional System Collided With The New Politics Of Extremism*. New York: Basic Books, 2012.

¹¹ Jacobson, Gary C. "Partisan Polarization in American Politics: A Background Paper." *Presidential Studies Quarterly* 43.4 (2013): 688-708.

¹² Nicholas St. Fleur, "Where in the World Is Climate Change Denial Most Prevalent?" *The New York Times*, 11 December 2015. <<http://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/where-in-the-world-is-climate-denial-most-prevalent>>

Polarization and Climate Change

Most partisan conflicts involve some entanglement of differences of values, priorities, and policy preferences. America's parties traditionally clash over the nature of problems and competing proffered solutions. The refusal to acknowledge climate change as a threat or even a phenomenon is a unique conundrum made possible by the problem's unique invisibilization. Whereas high salience issues tend to be problems people directly perceive to affect them like the economy and wars or "moral" conflicts like queer rights, the impacts of climate change are not immediately perceptible in the same way. Increased rates of sea level rise and recent extreme weather patterns are undeniable, but how they connect with one's individual act of driving a gasoline-fueled vehicle can be a difficult cognitive leap for those unacquainted with the science or otherwise predisposed to skepticism of it. People are thus more inclined to adopt the position of public figures they trust, taking "elite cues." For conservative voters, the dominant share of these cues distorts or denies the science of climate change. Public understanding of the scientific consensus is further undermined by American media coverage's penchant for highlighting competing parties in policy disputes. While this may create the impression of media objectivity, it also perpetuates the illusion that the phenomenon of climate change is contested within its relevant fields.¹³

The G.O.P.'s monopoly on American climate change denialism is by no means an arbitrary or sudden distinction. The extremity of the position has been arrived at over time through the parallel influences of strong pre-existing conservative

¹³ Elke U. Weber and Paul C. Stern. "Public Understanding of Climate Change in the United States." *American Psychologist* 66.4 (2011): 315-28.

inclinations skeptical of scientific authority, opposed to government social engineering, in favor of free enterprise, and committed to political obstructionism. These forces have left the Republican Party in poor shape to respond to the threat of climate change in a constructive way, or even to acknowledge it. Opposition to climate change action, and environmental policy overall, has strengthened substantially over time, outpacing polarization on several other major issues.¹⁴ While this entrenchment is subject to revision as the number of conservative elites and voters concerned with climate change grows, in the meantime America's current Republican Party, through its extensive network of denialist influence, is by no exaggeration the greatest obstacle to climate change policy in the world. Given that climate change is a difficult enough problem to address without disputes over its reality, the present political gridlock on the issue is as frustrating as it is dangerous.

A Super Wicked Problem

Simple issues can often be communicated quite effectively in policy debates. Unfortunately, the sheer complexity of climate change as a wicked problem frustrates this task for policy advocates. Wicked problems present the greatest challenges of policymaking by possessing a host of characteristics resistant to existing channels of policy negotiation and planning. They can either not fully be understood until after policy is formed, or may never be. They have no stopping rule, meaning no reliable indicator exists for when the problem has subsided and policy may be curtailed. Possible solutions to wicked problems are not right or wrong but good or bad, in other

¹⁴ D. L. Guber, "A Cooling Climate for Change? Party Polarization and the Politics of Global Warming." *American Behavioral Scientist*, 57.1 (2012): 93-115.

words, they are not strictly solvable. They are novel and unique. Lastly, each attempt at a solution has no immediate or ultimate test for its effectiveness and must be undertaken as a “one shot operation,” making attempts significant undertakings and trial and error approaches highly costly if possible at all.¹⁵

Climate change is an obvious wicked problem. As research has evolved, so has the recognition of cascading complexity. As David Victor observes, “As scientists have learned more about the climate system, they have uncovered a vast field of unturned stones.”¹⁶ The uncertainties of climate science make only its existence, source, and threat clear. The extent of climate change impacts on densely complex ecological systems or the warming effect of a given atmospheric greenhouse gas concentration may only be estimated, and projections have only become more dire as the field has developed. Its exacerbation is guaranteed so long as fossil fuels are combusted on Earth and many of its impacts are already irreversible, eliminating any hope of determining a stopping rule. No problem is more universally diffuse or so great a challenge to the human species’ modus operandi, with the notion of development still inextricable from fossil fuel consumption, making it unique with the additional distinction of being the greatest threat to the planet as a whole over time. Since climate change solutions are largely concerned with how to treat carbon emissions as a waste stream, different interpretations tend not to be readily compatible, forcing policy negotiations to focus on one-shot paradigms of climate

¹⁵ Horst W. J. Rittel and Melvin M. Webber, “Dilemmas in a General Theory of Planning.” *Policy Sciences* 4.2 (1973): 155-69.

¹⁶ David G. Victor, *Climate Change: Debating America’s Policy Options*. New York: Council on Foreign Relations, 2004. 10.

change policy. Carbon trading might be thought of as a one-shot that has missed its mark, a failure to be further explored in the following chapter.

In 2007, Levin et al. posited additional characteristics which take a problem beyond the merely wicked to the “super wicked,” using climate change as the quintessential example. In a super wicked problem time is running out, no central authority exists to address it, those seeking to solve the problem are also causing it, and potential policies discount impacts on the future relative to the present irrationally as a product of limited time horizons.¹⁷ This dire scenario is yet worse in the American context, where in Congress Republican majorities mean that more than half of those presently in office seek no climate change solution or oppose any effort toward one. This intransigence is especially tragic given that inaction on climate change or otherwise maintaining current rates of greenhouse gas emission poses serious, worsening, and irreversible consequences.

Obstructionism and the Denial Machine

Given the Democratic and Republican Parties’ relative positions on climate change, gridlock is an inevitable result. Debating policy solutions and debating the existence of a policy problem are fundamentally different conversations which running in parallel amount to little more than “talking past each other.” On some issues subject to gridlock, philosophies of governance are actively at odds. In the case

¹⁷ Kelly Levin; Benjamin Cashore; Steven Bernstein; and Graeme Auld, “Overcoming the Tragedy of Super Wicked Problems: Constraining our Future Selves to Ameliorate Global Climate Change.” *Policy Sciences*, 23 May 2012. 45 (2): 123–152.

of climate change, there is a fundamental lack of political engagement.¹⁸ In party configurations of the past we might imagine a Republican Party eager to take on an issue like climate change in an effort to produce a policy option its members and electorate prefer. Significant shifts in the Republican orthodoxy, however, have led the party deeper into a strategy of obstructionism over time punctuated by the Reagan and Gingrich Revolutions.

The Republican presidency of Ronald Reagan from 1981 to 1989 is the subject of considerable idolatry in modern American conservatism. The “Reagan Revolution” ushered in an era of conservative government marked by tax cuts, supply-side economics, welfare reform, free trade, and deregulation. Of these, deregulation was the lowest and ultimately least accomplished priority: “neither the administration nor Congress was willing to sustain the momentum for deregulation or to reform the regulation of health, safety, and the environment.”¹⁹ Despite this, deregulation has remained a fixation of the party ever since. In the environmental arena, opposition to the Obama administration’s Clean Power Plan is only the most recent instance. Several Republican states have threatened noncompliance with rules affecting coal-fired power plants.²⁰ At the end of 2015, President Obama vetoed a bill

¹⁸ A. J. Hoffman, “Talking Past Each Other? Cultural Framing of Skeptical and Convinced Logics in the Climate Change Debate.” *Organization & Environment* 24.1 (2011): 3-33.

¹⁹ William A. Niskanen, “Reaganomics.” *The Concise Encyclopedia of Economics*

²⁰ Bob Sussman, “The Clean Power Plan: Will States Choose to Comply?” *Brookings*, 20 January 2015. <<http://www.brookings.edu/blogs/planetpolicy/posts/2015/01/20-clean-power-plan-states-comply-sussman>>

to kill the CPP outright and every current candidate for the Republican nomination has promised to overturn the climate rules if elected.²¹

Advocating for deregulation generally is not an inherently untenable or unreasonable position. The merits of relative costs and benefits of regulatory programs, though a distinctly neoliberal framing, are subject to substantive policy debate. But where previously reasonable people might disagree, the behavior of Republican politicians particularly in the House of Representatives has become increasingly resistant to entertaining debate at all. The shift of congressional Republicans to a paradigm of obstructionist positioning was led foremost by former Speaker of the House Newt Gingrich in the “Gingrich Revolution” of the mid-1990s. The Republican takeover of the House following the 1994 midterm elections on the promises of the Contract with America which Gingrich coauthored brought more than just a crop of representatives committed to a set of conservative principles. It vindicated an attitude of contempt toward political procedure among American conservatives. Policy efforts not in alignment with the party’s interests are met with noncooperation. This shift to obstinacy as a constant feature of political conflict changed the historical tone of earnest negotiation in Congress drastically.²² The decades since the 1994 midterms have witnessed ongoing efforts to derail significant new regulatory statutes and, where regulatory authority already exists, limit

²¹ Timothy Cama, “Obama Vetoes GOP Push to Kill Climate Rules.” *The Hill*, 19 December 2015. <<http://thehill.com/policy/energy-environment/263805-obama-vetoes-gop-attempts-to-kill-climate-rules>>

²² See Sean M. Theriault, “The Gingrich Senators, the Tea Party Senators, and Their Effect on the U.S. Senate.” In Frisch, Scott A. and Sean Q. Kelly. *Politics to the Extreme: American Political Institutions in the Twenty-First Century*, New York: Palgrave MacMillan. 2013.

regulation through budgets, appropriation riders, and contentious appointment hearings.

The obstructionist strain of the G.O.P. since the 2010 midterm elections finds its core in the Tea Party movement, causing special difficulty for climate change action. The influence of the Tea Party on Republican climate change denialism has not been an introduction of new opposition but a force driving existing denialist positions to greater extremity and obstinacy, a pattern evident across many issues. While the degree of polarization the Tea Party movement has brought about is in a historical context a political novelty, its rise is a direct product of a two-party system. Incensed conservatives dissatisfied with Democratic government control set course to galvanize the Republican Party toward deeper conservatism. This was accomplished with success in rallying further right voters from the primary election stage onward and a substantial flow of dark money largely traceable to the fossil fuel magnates Charles and David Koch.²³ The result has been both the influx of lawmakers, in the House especially, who espouse denial of climate change publicly and incumbents who strike a comparable position in hopes of avoiding Tea Party challenges in primaries. Even as climate change impacts have exacerbated and conservative intellectual positions on policy solutions have evolved over the past half-decade, the further right's increased electoral influence and lack of tolerance for position shifting or policy concessions has kept Republican members from staking support for climate action.

²³ "Koch Industries." *OpenSecrets*. The Center for Responsive Politics.

The Tea Party movement's electoral success has not singlehandedly driven the Republican Party to greater ideological extremity. However, there is considerable reason to believe that its strong influence on climate change positioning has normalized denialism throughout the Party.²⁴ For candidates in substantially conservative districts, there is little to be gained from entertaining climate change policy discussion and possible votes to be won by echoing the large conservative denialist base. Following the 2008 recession, public concern over climate change has decreased drastically, supplanted by economic considerations. This trend goes beyond just outpacing climate change concerns as a matter of policy; public perception of the level of threat climate change poses has actually decreased due to the psychology of preoccupation with economic woes.²⁵ As a result, prospects of producing climate change policy through a swell of populist support has withered, making advocates' work hard enough without active denialist forces. Unfortunately, those forces remain, and the shift away from climate change salience and toward public economic concern has served the Tea Party well electorally with a platform built primarily on job creation and anti-taxation. In this context, climate change denial can be framed as an economic position. Tellingly, climate change policy efforts are most often criticized as plots to waste taxpayers' money or decried as needlessly job-killing. Republicans with reliable conservative bases can only gain politically from placing themselves in the denial camp.

²⁴ A. Leiserowitz; E. Maibach; C. Roser-Renouf; and J. D. Hmielowski, *Politics & Global Warming: Democrats, Republicans, Independents, and the Tea Party*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication. 2010.

²⁵ Lyle Scruggs and Salil Benegal, "Declining Public Concern about Climate Change: Can We Blame the Great Recession?" *Global Environmental Change* 22.2 (2012): 505-15.

Normalization of climate change denial within the Republican Party means that elites have incentive to espouse denial for the benefit of party cohesion. A unified front of opinion on climate change, like any issue, lends legitimacy to the party's stance and suggests a consistency of ideology. Coordinated denial allows Republican members to more convincingly present climate change denial as a position taken in the name of protecting taxpayers from the conspiratorial efforts of social engineers intent on imposing a liberal vision on American society. Faced with this party pressure, expression of the opposite would invite pariah status. This effect on members who might wish to develop Republican climate change solutions absent electoral considerations has become known as "the climate change closet" and conservative elites seeking climate change action have put great focus in how to get Republican representatives out of it. Meanwhile, as *Forbes* has noted, "It's been an article of faith for some time now — inside the whispery Washington Beltway, in state legislatures and even among hunting and outdoor recreation groups — that conservative Americans are, in fact, very much at odds with the vacuous climate denialism peddled by many members of the Republican Party's national leadership."²⁶ To represent their increasingly climate-concerned constituents effectively, Republican members must find a means of political escape from the electoral threats and deep coffers of Tea Party interests.

Climate change denialist pressures from major campaign donors on Republican members are not to be under-stressed and the outsize influence of Charles and David Koch in particular underestimated. Money acts as a prime motivator in

²⁶ Tom Zeller Jr., "Groups Aim to Lure Conservatives Out of the Closet on Climate Change." *Forbes*, March 5th, 2015. <<http://www.forbes.com/sites/tomzeller/2015/03/05/bringing-conservatives-out-of-the-closet-on-climate-change/#51b03dd15e1f>>

many Republican members' choice to publicly deny climate science. Given the political impossibility of safely advocating the contrary, campaign funds become the ultimate sweetener for adopting the position of denial. As *The New Yorker* reported in 2013, "Fossil fuel magnates Charles and David Koch have, through Americans for Prosperity, a conservative group they back, succeeded in persuading many members of Congress to sign a little-known pledge in which they have promised to vote against legislation relating to climate change unless it is accompanied by an equivalent amount of tax cuts."²⁷ Just cursory research on OpenSecrets, the public information political donation database, reveals the very disproportionate level of donations by fossil fuel companies to Republican members of Congress over Democratic members.^{28,29} Where a Republican candidate might otherwise stake no claim on climate change, their position is easily bought, as the candidate has nothing of significance to lose in the eyes of their electoral base and a potential victory to gain through financial support. As one organizer doing substantial work toward conservative climate change action expressed in an interview regarding the Koch brothers, their denialist outfits, and campaign finance: "It's unbelievable how such few people can fuck up everything... These two guys stopped the world."

Forces of well-financed obfuscation of scientific findings are not new to American politics. Oreskes and Conway's scientific history *Merchants of Doubt*, spoken of frequently in climate change policy circles, identifies climate change denial

²⁷ Jane Mayer, "Koch Pledge Tied to Congressional Climate Inaction." *The New Yorker*. Condé Nast, 30 June 2013.

²⁸ "Mining." *OpenSecrets*. The Center for Responsive Politics.

²⁹ "Oil & Gas." *OpenSecrets*. The Center for Responsive Politics.

campaigns as the latest and largest in a series of such efforts by a small number of deeply connected and very rich scientists and political actors to undermine public acceptance of established scientific consensus on major issues over several decades. The work of this highly influential minority in the scientific community has come to be known as the “denial machine,” ready to be deployed by the highest bidder. Patterns similar to the “disinformation campaign”³⁰ against climate science have sown doubt about the detrimental health effects of tobacco smoking, the ecological impacts of DDT, the effect of chlorofluorocarbons on the Earth’s ozone layer, the cause of acid rain – essentially all of the major environmental concerns mentioned earlier in this chapter.³¹ While clearly such influence has been overcome in the past, the case against climate change science is especially effective due to the ease of dissociating the impacts of the problem from its cause.

True Believers

Climate change denial is clearly espoused by conservative elites as a political tactic to promote other interests and deployed in protest against liberal elites perceived to use climate change to justify their own. However, resistance to climate change belief is rooted in cognitive biases stemming from genuine core beliefs and skepticisms of conservatives. Neoliberal market faith, future risk perception of white men (the party’s predominant membership), and conservative evangelical Christianity play substantial roles in priming Republican affiliated citizens for climate change

³⁰ Personal interview, Carol Werner, Environmental and Energy Study Institute, 3 June 2015.

³¹ See Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. New York: Bloomsbury, 2010.

denial. Prima facie incompatibility of these beliefs makes conservative climate action support an initial cognitive hurdle for some, but exploring them is critical to understanding how climate change issue communication is failing to reach those hold them most deeply.

To begin with the most hopeful case, free market thinking has no consensus on climate change as an issue or problem. The free market case for climate change action has become louder and more developed in the past few years, a movement explored at length in Chapter IV. The free market orthodoxy, however, has long opposed government intervention on environmental concerns as detrimental to free enterprise and ineffectual in solving problems that markets ought to address through unimpeded function. To be more precise, there is a belief that most environmental problems stem from a misspecification of property rights and can be resolved through market forces and tort law. Climate change has been no exception, and political organizations of the market libertarian bent have been among the most active sources of opposition to climate action. This type of market libertarianism, and by extension anti-environmentalism, stems from tenets of neoliberalism that are peculiarly strong in the United States. By this frame in its purest form, natural resources are to be consumed at whatever rate for which there is demand in the service of greater growth of wealth overall.³² Climate change, the paramount example of the repercussions and limitations of consumption, thus presents an existential threat to neoliberalism to which denial is an easier response than substantive engagement. Free market interests have long found their representation in the Republican Party and its members

³² Jean-Daniel Collomb, "The Ideology of Climate Change Denial in the United States." *European Journal of American Studies* Vol 9, No 1 (2014).

frequently oppose environmental policy efforts on the grounds that they harm the economy by constraining free enterprise. On climate change at least, consideration of the actual economics has created a schism in free market-minded input on climate change policy.

Sociological evaluation of the origin point of climate change denialism in the Republican Party concludes that conservative white males are by far the most likely demographic to strongly deny climate change science and actively espouse doubt. McCright and Dunlap attribute this to the “white male effect” hypothesis, which holds that white men are psychologically much more willing to accept high levels of risk, no doubt due to their demographic status as least vulnerable in society.³³ The impact of the white male effect by party can be surmised by noting that as of the 2014 mid-term elections “89 percent of House Republicans are white men, compared to just 47 percent of House Democrats.”³⁴

The correlation of skepticism of science and conservative Christian belief in America dates back to the public dispute of the reality of biological evolution which has continued with varying intensity since the Scopes Monkey Trial of 1925. Christian skepticism of belief in climate change finds its beginning in conservative Christian anti-environmental attitudes more broadly. Such attitudes come out of fundamentalist beliefs regarding the nature of the world’s beginning and end. In conservative interpretations of Genesis, the Earth is made by God for man’s exploit

³³ Aaron M. McCright and Riley E. Dunlap. “Cool Dudes: The Denial of Climate Change among Conservative White Males in the United States.” *Global Environmental Change* 21.4 (2011): 1163-172.

³⁴ David Wasserman, “After The Midterms, The Diversity Gap In The House Will Be Wider Than Ever.” *FiveThirtyEight*. ESPN Internet Ventures, 15 September 2014.

and its providence is limitless. Environmental degradation, then, is merely a byproduct of mankind's divinely facilitated flourishing.³⁵ Adherents of this belief are also inclined to believe the climate is God's domain, outside of the realm of human influence, leading religious climate change deniers like Republican Senator James Inhofe of Oklahoma to describe belief in the phenomenon as arrogant.³⁶

The influence of end-times belief among conservative Christians is yet more pronounced. Those who believe that the mortal world shall end, possibly quite soon, with the Second Coming of Jesus Christ have little incentive to invest thought or political will in addressing problems for which the worst consequences are the furthest off (i.e. environmental concerns).³⁷ In fact, eschatological belief is a greater negative influence on climate change policy support than any other political factor, including partisanship and ideology.³⁸ As such, The Public Religion Research Institute reports "White evangelical Protestants are more likely than any other religious group to be climate change Skeptics. Only 27% of white evangelical Protestants are climate change Believers, while 29% are Sympathizers and nearly 4-in-10 (39%) are Skeptics."³⁹

³⁵ Lynn White Jr., "The Historical Roots of Our Ecologic Crisis." *Science* 155.3767 (1967): 1203-207.

³⁶ Brian Tashman, "James Inhofe Says the Bible Refutes Climate Change." *Right Wing Watch*, 8 March 2012. <<http://www.rightwingwatch.org/content/james-inhofe-says-bible-refutes-climate-change>>

³⁷ Harry O. Maier, "Green Millennialism: American Evangelicals, Environmentalism, and the Book of Revelation," *Ecological Hermeneutics: Biblical, Historical and Theological Perspectives*, ed. David G. Horrell, 246-266. London: T & T Clark, 2010.

³⁸ D. C. Barker and D. H. Bearce, "End-Times Theology, the Shadow of the Future, and Public Resistance to Addressing Global Climate Change." *Political Research Quarterly* 66.2 (2013): 267-79.

³⁹ Robert P. Jones, Daniel Cox, and Juhem Navarro-Rivera, "Believers, Sympathizers, and Skeptics: Why Americans are Conflicted about Climate Change, Environmental Policy, and Science." Public Religion Research Institute. 22 November 2014.

Such a fundamental belief leaves little significant room for negotiation. However, environmentally concerned evangelical movements, collectively termed “creation care” seek to reframe historically anti-environmental scriptural interpretations in generating Christian support for environmental reform and climate change policy in particular. Creation care advocates make the case that environmental preservation, climate stability included, ought to be a matter of Christian duty to act as stewards rather than exploiters of God’s creation.⁴⁰ Should they find success, one of the largest sources of conservative denialist attitudes may well be mitigated.

Bad Enough Without the Bad Guys

The above analysis of conservative climate change denial forces, taken alone, may suggest that the political right possesses sole culpability for the absence of climate change policy in the United States. Like political polarization more broadly, legislative inaction on climate change is of asymmetrically conservative origin, but Democratic positioning has done little in the way of effort to break the intransigence. For all of its rhetoric, and increasing instances of calls for climate action, the Democratic Party has never been genuinely committed to reducing U.S. greenhouse gas emissions over other often political priorities. A powerful case in point is the Byrd-Hegel Resolution of 1997, which passed the Senate 95-0 in a Congress with only a narrow Republican majority and declared:

...that the United States should not be a signatory to any protocol to, or other agreement regarding, the United Nations Framework Convention on Climate Change of 1992, at negotiations in Kyoto in December 1997 or thereafter

⁴⁰ See Katharine K. Wilkinson, *Between God and Green: How Evangelicals Are Cultivating a Middle Ground on Climate Change*. New York: Oxford UP, 2012.

which would: (1) mandate new commitments to limit or reduce greenhouse gas emissions for the Annex 1 Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period; or (2) result in serious harm to the U.S. economy.⁴¹

Introduced by a Democratic Senator, the resolution essentially, with bipartisan authority, removed the U.S. from being a reliable multilateral policy partner for the two decades since Kyoto, causing subsequent UNFCCC summits to draft their agreements in such a way that would not bind the U.S., the world's largest per capita emitter of greenhouse gases, with any commitments. Even the most recent and most ambitious agreement out of the conference in Paris operates under these constraints.

Byrd-Hegel represents a line of reasoning which persists within both major parties: greater trepidation regarding potential new climate change law than trepidation at the threat of climate change itself. Still, climate change debates remain highly visible. Republicans repel Democratic calls for climate change policy as attempts to justify liberal social engineering. Democrats shame Republicans for ignorance and irresponsibility on the threat of climate change. Members of both parties are politically rewarded for maintaining their respective positions by constituents who hold the same view – largely because the political elites they trust hold them. This feedback loop is one of mutual advantage and blame, but ultimately it discourages cooperation by the right more than the left. As Eli Lehrer, president of the free-market R Street Institute is succinctly fond of saying, “liberals like to use climate change to make Republicans look stupid and evil.”⁴² In a Republican Party populated by representatives and people already disinclined to accept – let alone

⁴¹ S.Res.98 – 105th Congress (1997-1998)

⁴² Personal interview, Eli Lehrer, R Street Institute, Washington, D.C., 12 June 2015

prioritize – the issue, Democratic attacks make consideration and negotiation of climate change policy all the less appealing. For purportedly climate-concerned Democratic officials, such a hostile stance has fast diminishing returns, especially when a possible majority of Republican members of Congress privately recognize the need for climate action.⁴³

This intransigence would no doubt have existed with or without the additional influence of Tea Party pressure and corporate dark money – Congressional bifurcation and inaction precedes them both – and our dearth of climate change policy would likely still be the present case. Such outside influences have made hope of action considerably more distant, however, by creating further obstacles in the political paths which might have given way to bipartisan climate change acceptance with sufficient time and effort. Instead, climate action has had to take its slow course through channels outside the legislature.

The Institutional Dynamics of U.S. Climate Change Policy

Despite political polarization and public disinformation, hope for climate action has found its meandering way to what is likely its greatest point yet. This is not immediate cause for celebration. Absent Congressional action, climate change concern has crawled its way through the executive and judiciary branches. The end result is a proper Clean Power Plan, but its efficacy is dubious and the road to it has been dangerously long. Still, the flow of climate action through the institutions of the

⁴³ Personal interview, Sarah Hunt, Niskanen Center, Washington, D.C., 8 July 2015

U.S. system has evolved the issue to the point where it hopefully may no longer be ignored.

In 2003, the Environmental Protection Agency under the presidency of George W. Bush denied a petition to have CO₂ regulated as a pollutant under the Clean Air Act, stating that “Congress has not granted EPA authority under the Clean Air Act to regulate CO₂ and other greenhouse gases for climate change purposes.”⁴⁴ The state of Massachusetts, in conjunction with eleven other states, three cities, and thirteen environmental and scientific organizations filed suit to appeal the petition and reverse EPA’s ruling. They argued that the broad powers of the CAA over “any air pollutant” that can “reasonably be anticipated to endanger public health or welfare”⁴⁵ encompassed the climate change impacts posed by atmospheric CO₂. In the spring of 2007, the Supreme Court agreed with the petitioners, deciding *Massachusetts v. Environmental Protection Agency* by 5-4 in favor of Massachusetts et al.⁴⁶

The Court’s ruling meant that EPA was required to develop a plan to regulate U.S. CO₂ emissions through the command-and-control regulatory authority it possesses under the CAA. Both the Democratic and Republican Parties feared that such regulation would be highly costly, inefficient, and slow. The quest to create an alternative through national climate change policy intensified. Just a few months prior to the *Massachusetts v. EPA* ruling a coalition of American businesses and environmental organizations formed called the U.S. Climate Action Partnership

⁴⁴ “EPA Denies Petition to Regulate Greenhouse Gas Emissions from Motor Vehicles.” EPA, 28 August 2003.

⁴⁵ Clean Air Act, 42 U.S.C. ch. 85

⁴⁶ *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007)

(USCAP), organized primarily by the Pew Center on Global Climate Change, known today as the Center for Climate and Energy Solutions. In January of 2009, USCAP (its phonetic name was no accident) released “A Blueprint for Legislative Action” which was essentially an American cap-and-trade policy proposal.⁴⁷

Representative Henry Waxman (D-CA) “bear-hugged”⁴⁸ the proposal and with the co-sponsorship of Ed Markey (D-MA) introduced it as the American Clean Energy and Security Act, or Waxman-Markey, the bill that USCAP’s consortium of businesses had essentially dreamed of. The carbon trading scheme would have preempted EPA regulatory authority over greenhouse gases. Waxman expended a great deal of the political capital he had gained over many years of service in the House to rally the Democratic Party around cap-and-trade, seeking to build on his legacy of taking on big tobacco.⁴⁹ Ultimately, he succeeded in generating sufficient support in the House and the Waxman-Markey passed 219 to 212, with 44 Democrats still in opposition. By the time of its passage, however, it had acquired riders regarding allowances, exemptions, and funding of clean coal technology which made its goal of holding polluters accountable somewhat dubious. The Obama White House, which had previously expressed support for the plan, shifted its priority to healthcare reform in the Senate, where Majority Leader Harry Reid (D-NV) never brought cap-and-trade to a vote.⁵⁰

⁴⁷ See “A Blueprint for Legislative Action” U.S. Climate Action Partnership, January 2009.

⁴⁸ Personal interview, Tim Giuliani and Jason Ye, C2ES, Washington, D.C., 22 July 2015

⁴⁹ Ibid.

⁵⁰ Ibid.

With momentum for national climate change policy lost, EPA under the Obama administration returned to developing a national climate change mitigation plan through executive authority. The result, unveiled in full on August 3rd, 2015, is the Clean Power Plan (CPP), set to phase out coal-fired power plants and set emissions targets state by state demanding compliance plans. The CPP is the most effective emissions mitigation plan possible under the authority of a 1970 which predates common understanding of climate change,⁵¹ which is to say most policy analysts concerned with climate change believe it to be insufficient to attain the reductions needed to prevent serious negative climate change impacts. The imposition of its impending, largely undesirable regulations, however, has rekindled interest among policymakers in finding an alternative through national climate change law or passing law in addition to better ensure sufficient reduction of emissions. These efforts are discussed further in the proceeding chapters.

Conclusion

Regardless of what climate action outcomes may arise in the future, it is certain that distinctly American political challenges have made the distinctly global problem of climate change considerably worse. Legislative stagnation, conservative denial, and judicial waiting games have kept climate change policy from ever being an inevitable accomplishment. In the meantime, the continued greenhouse gas emissions of the United States have exacerbated the planet's fight for climate stability and habitability. Now, however, after more than a quarter century of climate change

⁵¹ Coral Davenport, "Obama Builds Environmental Legacy With 1970 Law." *New York Times*, 26 November, 2014. <<http://www.nytimes.com/2014/11/27/us/without-passing-a-single-law-obama-crafts-bold-environmental-policy.html>>

as a matter of public understanding and concern, the slow process of the tripartite government of the U.S. may finally have produced the seed of effective climate change policy.

Chapter III: Carbon Pricing

Global climate change is foremost a product of globalization – a tragic side-effect of having the dream of interconnection and universal development be fueled by hydrocarbons. Efforts to fuel our modern world with renewable energies like wind and solar power generation have largely been stifled by cost, or else the financial influence of established fossil fuel interests. The thought thus naturally arises to have the ultimate cost of the use of fossil fuels be included in their economic consumption. Through the critical government intervention of a carbon price, the vision is that markets will set right the tragedy they created – or at least begin to. To this end, two systems – cap-and-trade and a carbon tax – have been devised. While each in theory offers relative advantages, significant failures in the practice of cap-and-trade have come to show much greater promise for a potential carbon tax.

Climate Change and the Social Cost of Carbon

In a perfect market, all of the costs are incorporated in the price and borne by the consumer. The private costs may not equal the social costs, however. There may be negative externalities that foist these costs on to society as a whole, creating a market failure and a loss of efficiency. These failures tend not to be individual instances, but systemic to certain types of activity, such as the combustion of fossil fuels. These proliferations of externalities make up what is known as a social cost, representing the burden to society overall beyond the mere private costs associated with the incriminated transaction. In a governmental context, social costs essentially mean that society subsidizes consumption, driving it to higher levels than if costs

were incorporated in the good's (i.e. fossil fuels') price. Negative externalities are frequently environmental in character. Many old common law disputes over river and land use sought remedy for such negative externalities – an upstream mill mucking up a downstream farmer's water source, for instance – as harm, or demonstrable damage to livelihood. Indeed, “negative externality” might be better understood as an economist's euphemism for the harm markets do to society. Fortunately, imagining policies for correcting such harm is a favorite pastime of economists. Unfortunately, as discussed in Chapter II, it has been a long time – the Clean Air Act Amendments of 1990 – since legislators took heed of their suggestions with environmental statutes.

Global climate change might well be thought of as the greatest negative externality in the history of markets. Its impacts have no locality or allowance for isolation – the “social cost” is a planetary one. As such, climate change may also be thought of as the only truly global problem, diffuse across the planet. Correcting for it, at least in part, is relatively straightforward – set a price on the emission of greenhouse gases known to exacerbate climate change to allow the price to internalize the social cost. Once the price is imposed, the expectation is that people will make investment and consumption decisions favoring less carbon-intensive goods, practices, and technologies. It is both elegant and imperative to have the world's only global instrument, markets, account for the world's only global problem, climate change. Efforts to do so have largely focused on the most abundant and atmospherically persistent greenhouse gas, carbon dioxide (CO₂). CO₂ is often referred to shorthand as simply “carbon,” and thus efforts to account for its externality are known as carbon pricing.

Carbon pricing has been central to discussion of climate policy internationally since the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol in 1992. Carbon pricing can be done through two main policy options, a direct carbon tax or indirectly through a cap-and-trade scheme. Each option represents a fundamentally different approach to the ends of price-setting and emissions reduction. Cap-and-trade aims for certainty of reductions by setting a cap on polluting firms' emissions and allowing a market built around emissions allowances to determine the carbon price. A carbon tax imposes a fee on fossil fuels directly based on their emissions potential to have the price reflected across the economy. To date, cap-and-trade has been the predominant policy in carbon pricing discussions largely for its greater perceived political palatability, despite wide favor for a carbon tax among economists. Examining fully the case for and role of a carbon tax in the United States requires a critical understanding of cap-and-trade's flaws and its historical popularity.

Cap-and-Trade, the Market Instrument

The trading system was a big mistake. You want a stable, predictable price and to exploit the revenue. –Ian Parry¹

Cap-and-trade schemes are often complicated by the proliferation of exemptions and special allowances through the political process, a quality which often serves to the advantage of its proponents. However, the basic design is fairly straightforward. Based on a reductions target within a certain time frame (presumably a few years), designers determine a “cap” on regulated firms' emissions. Because of

¹ Personal interview, Ian Parry, International Monetary Fund, Washington, D.C., 16 July 2015

the administrative demand of overseeing the scheme, cap-and-trade's carbon pricing only accounts for major industrial emitters like electricity generation and manufacturing, generally (based on the prime example of the European Union) amounting to 40% of a developed country's total emissions. From the cap setting, polluting firms are allocated permits – alternately known as allowances or carbon credits – for emissions deemed acceptable below the capped limit. Firms which emit in excess of the cap may purchase additional permits from firms with a surplus of them in a “trade” to remain compliant with the cap.² The scheme is thus designed to provide financial incentive for reducing emissions. By allowing firms with the lowest marginal costs of abatement to specialize in pollution reduction, efficiency is promoted.

The other component to the carbon market created by cap-and-trade is the practice of carbon offsetting. Through the carbon offsets market, firms in need of additional permits may purchase offset credits from approved third party sources involved in sustainable development or carbon mitigation in the developing world. These financing projects, verified by monitoring organizations like the United Nations' Clean Development Mechanism, generate carbon offsets by meeting the criteria of additionality.³ Additionality requires that the wealth transfer used to fund the offset project is solely responsible for making that project possible. That is, the offset credits must be the result of the incentive provided by the carbon market rather than the carbon market opportunistically capitalizing on pre-established projects.

² See A. Denny. Ellerman; Frank J. Convery; and Christian de Perthuis, *Pricing Carbon: The European Union Emissions Trading Scheme*. Cambridge, U.K.: Cambridge UP, 2010.

³ Adam G. Bumpus and Diana M. Liverman, “Accumulation by Decarbonization and the Governance of Carbon Offsets.” *Economic Geography* 84.2 (2008): 127-55.

Thus the offsets market component to carbon trading is intended to be a win-win: polluting firms are provided with a source of credits beyond surplus from other participants and developing economies are provided with financing for clean development.

Combined, emissions allowances and offset credits are meant to create a robust carbon market in which reductions and “avoided emissions” are properly and proportionally rewarded by financial incentive. But while the system is comprehensive in theory, its many moving parts open it to numerous points of corruption which paired with the administrative burdens of carbon accounting and offset verification lead critics to believe the carbon market has proved itself to be a worse than nothing solution.

During negotiations toward the 2009 passage of the Waxman-Markey cap-and-trade bill in the U.S. House, the inclusion of carbon offsets within the hypothetical American market was a major requirement for collaborating firms.⁴ The insistence of firms on the inclusion of offsets did little to reassure skeptics who viewed the bill as a pay-to-pollute mechanism. Weakened reductions targets and promised funding for the coal industry, intended for carbon capture and sequestration further cemented the worry that the bill was tailored in polluting firms’ favor. Given the political influence of corporations in the cap-and-trade design process, the final product was inevitably one they found agreeable. This marks a final caveat of cap-and-trade: since the scheme only directly affects major polluting firms, those same

⁴ Personal interview, Tim Giuliani and Jason Ye, C2ES, Washington, D.C., 22 July 2015

firms are most engaged in the surrounding politics, whereas economy-wide carbon pricing provides greater opportunity for populist support.

The first objection to carbon trade as a global climate change policy is the tradeoff a cap-and-trade scheme makes as an instrument in valuing certainty of reductions over certainty of the cost of emissions. This objection falls mainly along two lines of argument, one practical and one based in ethical principle. The practical objection to cap-and-trade's price instability is that fluctuations in the economy overall can drive the value of credits up and down without warning. In a system which operates based on inflexible phases, there is no means for the carbon market to respond to the unexpected. This was most plainly demonstrated by the plummeting cost of carbon in the European Union Emissions Trading Scheme (EU ETS) in the wake of the global recession which began in 2008. Even several years later, in 2013, the EU ETS reached its record low price of €2.81, far below its pre-crash record high of €32.⁵ The crash has made ascertaining the effectiveness of the ETS as a greenhouse gas reductions policy nigh impossible, for while emissions have dropped, this can mainly be explained by the decline of all markers of economic productivity in a Europe beset by austerity measures.

From the perspective of environmental ethics, this price instability is troubling because it undermines what a carbon price is meant to represent: the economic reflection of the ecological and societal burden of emissions. Given the cumulative damage of each emitted ton of CO₂ in the atmosphere, in principle the social cost of carbon only ever increases. Thus the capacity for a carbon price to plummet in a cap-

⁵ Damian Carrington, "EU Carbon Price Crashes to Record Low." *The Guardian*, 24 January 2013. <<http://www.theguardian.com/environment/2013/jan/24/eu-carbon-price-crash-record-low>>

and-trade scheme is antithetical to the environmental spirit of the policy. This furthermore makes the scheme's equilibrium mechanism a dangerous feedback loop. Low prices mean less incentive to invest in emissions reductions, meaning a slower technology transfer over the long term and a need to tighten the cap for the next trading phase in response, likely to entail a jarring price hike rather than encouraging a process of economic transition.

The practice of instituting a "floor price" aims to address this instability directly by establishing a guaranteed minimum carbon price. Frustrated with the failure of the EU ETS, the United Kingdom was the first to employ such a policy, setting a floor of £16 in 2013 with a trajectory to rise to £30 by 2020.⁶ While the price floor directly addresses the objections above, it functions more as a patch than a substantive reform of carbon markets. The floor price's first shortcoming is that undertaken independently, as by the U.K., it exacerbates the carbon market's already nagging problem of carbon leakage.⁷ That is, while the floor price might mean emissions reductions in the U.K., it means higher emissions for other countries under the ETS having to compensate for reduced British coal production, resulting in no appreciable net emissions reduction and a shift to greater consumption of foreign goods produced more cheaply under a lower (or no) carbon price. Of course, the leakage problem would be remedied within Europe if a floor price were to be adopted EU-wide, although the global trade leakage problem would persist. Many climate action proponents in the EU suggest such a floor price to salvage an ailing ETS. The

⁶ "Carbon Floor Price Briefing," Sandbag.

⁷ Fiona Harvey, "'Carbon Floor Price' Plans Dealt a Blow by MPs." *The Guardian*, 26 January 2012. <<http://www.theguardian.com/environment/2012/jan/26/carbon-floor-price-blow>>

ready answer of critics is that such a reform is simply a carbon tax by other means, and a less effective one at that given the ETS covers only 40% of emissions economy-wide.

Aside from the issue of price instability and its associated difficulties, cap-and-trade faces a deeper problem in how the carbon price, or more specifically the cap from which it is derived, is determined. The cap for a trading phase is set to meet a reductions target in order to ensure its achievement, but reductions targets are calculated relative to previous levels of emissions. This gives firms incentive to exaggerate their greenhouse gas emission levels prior to the scheme's implementation in order to receive more permits. Given that reliable carbon accounting for a particular firm is unlikely to predate the existence of a carbon market, this ruse proves not all that difficult. Similarly, unless they stand to profit considerably from selling excess permits, firms lack incentive to reduce emissions rapidly under a cap since hedging to the target is a more profitable strategy. To stymie things further, the administrative burden of overseeing such a program is beyond the regulatory capacity of possibly any nation, inviting a high degree of fraud in the allowances market difficult to investigate or prosecute, which has cost the EU market an indeterminate number of billions of euros.⁸

On the carbon offsets side of the carbon market, reason for objection stems from serious social justice concerns. Criticisms of the carbon offset market range from complaints of poor regulation and subsequent fraud to the use of offset projects as a means of expropriating land from indigenous peoples. Offset credit generating

⁸ Katherine Nield and Ricardo Pereira, "Fraud on the European Union Emissions Trading Scheme: Effects, Vulnerabilities and Regulatory Reform." *European Energy and Environmental Law Review*, Issue 6 (2011) 20, pp. 255–289.

projects are primarily located in developing nations of the global south. Common programs include wind farms, afforestation, hydroelectric dams, and monocrops of biofuels, each with their own ecological implications.⁹ Offset providers must demonstrate the "additionality" of their projects, meaning they must be the direct result of the offset firm's funding, that is, not preexisting or possible independent of the financing. Additionality makes theoretical sense as a requirement, but proves impossible to verify. To truly demonstrate additionality, the offset firm would need to be capable of knowing precisely what the future emissions situation would be without its involvement – essentially clairvoyance. Additionality arguments thus succumb to much the same cronyism as cap negotiations in a trading scheme, with much incentive for exaggeration.¹⁰ Verification is offered by the U.N.'s Clean Development Mechanism (CDM) – the carbon market created under Kyoto – but their standards for qualification based on environmental benefit are inconsistent and monitoring for assurance is an enormous administrative challenge.¹¹ The CDM's verification process is complicated enough that voluntary offset suppliers (not associated with cap-and-trade) don't bother with it, creating an unregulated market estimated at \$379 million in 2013.¹² Lack of carbon offset market regulation, as in any market, makes the system ripe for fraud, exacerbating environmental and social impacts of offset projects.

⁹ Nafeez Ahmed, "World Bank and UN Carbon Offset Scheme 'Complicit' in Genocidal Land Grabs – NGOs." *The Guardian*, 3 July 2014.

¹⁰ Trusha Reddy, *Carbon Trading in Africa*. Institute for Security Studies, 2011.

¹¹ Matthew J. Hoffmann, *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto*. Oxford UP, 2011. 129.

¹² Molly Peters-Stanley and Gloria Gonzalez, "Sharing the Stage: State of the Voluntary Carbon Markets 2014." *Ecosystem Marketplace*, Forest Trends, May 2014.

CO₂lonialism

Carbon offset projects require land. While small technology transfers like lightbulbs and cooking stoves make up a small part of the carbon market, substantial projects require thousands of acres. Large parcels of land may be cleared to set up wind or solar farms. More often, forests will be planted or seized to prevent the carbon dioxide release which would result from their destruction. Offset suppliers secure land by purchasing it from local governments in a corporation to state wealth transfer meant to fund the sustainable growth of developing nations. Frequently, however, the land is populated by indigenous peoples who primarily live off it. Ann Prouty, writing for the *Columbia Journal of Environmental Law* summarizes:

Primarily, this issue arises because the large parcels of land required for tree farms will be acquired through negotiations with the host country's national government, but the consequences will largely be felt in the impoverished, rural communities dependent on these lands for survival. While the national government likely has its constituents' interests in mind, its weak bargaining position and dire need of funding may result in the approval of projects that harm host communities.¹³

As a result, carbon offsets have been condemned by grassroots climate justice groups, including formal opposition by coalitions of indigenous peoples.¹⁴

Through the carbon offset market, national governments of countries used as project sites become dependent on the funds they receive by participating in the market, prompting them to continue its support in intergovernmental negotiations. Meanwhile, the additionality requirement of carbon saving projects means that if

¹³ Ann E Prouty, "The Clean Development Mechanism and Its Implications for Climate Justice." *Columbia Journal of Environmental Law*, Columbia, 2009. 7.

¹⁴ "No REDD," Indigenous Environmental Network. <<http://www.ienearth.org/REDD/redd.pdf>>

project-hosting countries were to undertake their own independent efforts at renewable energy development or afforestation, they would lose their viability as a host country and with it financing from offset suppliers. This leaves the energy development of generally poor nations in the hands of corporate entities based in developed nations of the Global North, which in the process of taking up land in the Global South are rewarded in the form of emissions reduction credits with the ability to continue emitting GHGs in the same quantity. Thus, “The net result for the climate is that offsetting tends to increase rather than reduce greenhouse gas emissions, displacing the necessity to act in one location by a theoretical claim to act differently in another.”¹⁵ In the current paradigm, the world’s poorest people are subject to the worst impacts of both the problem of climate change and its purported solutions. Tellingly, grassroots resistance movements against carbon trading have adopted the textual conflation “CO₂lonialism” to characterize the relationship.¹⁶

Indigenous populations are dispossessed of their homes and farms, and forbidden to enter the forests that provide vital building resources, food, and fuel. Talking of avoided deforestation offset projects in Brazil, a researcher for the Forests and the European Union Research Network says “everyone is cash poor but no one goes hungry. If you take the forest away, you take away everything. The preservation projects here are designed to generate offsets for the largest polluters, and they're doing it by cutting off people from the land.”¹⁷ Project host governments get away

¹⁵ “Carbon Trading: A Brief Introduction.” *Environmental Justice*. Transnational Institute, 11 September 2009.

¹⁶ “No REDD”

¹⁷ Mark Schapiro, “GM's Money Trees.” *Mother Jones*, November 2009.

with this under their own laws because subsistence farmers in the forest have no official legal title to their lands. Having inhabited it across generations for decades or centuries, there was no need for formalization of property rights since indigenous populations peacefully coexisted with the rest of the nation, if only by nature of their remoteness. Participation in the offsets market gives the governments of developing nations a financial incentive to break the history of nonintervention (or bring to a head a history of land disputes) in order to exploit indigenous land-based communities and profit from the forests to which they claim a natural right. These displacements unsurprisingly turn violent with frequency. Governments may station paramilitary police forces to patrol protected forests and subsequently the ownership rights of corporations to their carbon storage capacity.¹⁸

The goal in pricing carbon is for polluters to internalize the environmental and social externalities caused by their greenhouse gas emissions. The current trading market fails to meet this social cost while generating further externalities. Paired with the problems of price instability, the impacts of carbon offsets have made cap-and-trade an unsavory climate policy instrument in practice. Though carbon trade markets have been the focus of international climate negotiations for the past twenty years, they are in no way the only possible means of addressing the substantial collective action problems presented by climate change.

Carbon Tax, the Market Signal

¹⁸ Doug Struck, "Buying Carbon Offsets May Ease Eco-Guilt but Not Global Warming." *The Christian Science Monitor*, 20 April 2010.

If the purpose of carbon pricing is to create an economic corollary to the social cost of greenhouse gas emissions, a direct tax on the carbon content of fossil fuels is a carbon price in its purest form. Carbon is assigned a dollar fee per metric ton, such as \$15/ton CO₂. At this price the coal, oil, or natural gas which would emit a ton of CO₂ if combusted would now cost \$15 more than it would without the tax. The carbon tax's advantage as a transparent policy option becomes immediately apparent. While emissions monitoring and reductions goals are important to climate policy design, the carbon tax's straightforward price certainty makes market outcomes and thus rates of adaptation and transition more reliable. The ordinary price-based purchasing decisions of consumers automatically come to disfavor carbon intensive goods and businesses are able to make fiscal projections with certain carbon costs factored in – in fact, a great many major corporations already make projections accounting for a future price on carbon, referred to by economists as a “shadow price.”¹⁹ The direct and transparent qualities of the tax as opposed to the more esoteric components of trading schemes have led economists who favor it to distinguish the policy as a market signal as opposed to a market-based instrument.

Although the carbon tax is intended to reflect the social cost of carbon emissions, that cost's exact number is a highly contested economic and scientific question. Indeed, if a social cost is scientifically determined, any scientific uncertainty regarding the ultimate severity of climate change impacts likewise casts an associated cost into doubt. Climate science is complicated and its projections are probabilistic, meaning uncertainty is inherent in social cost discussions. Questions of

¹⁹ “Putting a Price on Risk: Carbon Pricing in the Corporate World.” CDP, September 2015.

how exactly to quantify the damages of sea level rise or foresee the effects of ocean acidification on global markets are as beguiling as they are alarming. For this reason, the economic consensus is that a carbon tax's most important features are an association of a significant cost *at all* with carbon emissions, since present practice amounts to free exploitation of the shared atmosphere, and that said cost increases at a pace sure to meet or exceed reasonable social cost projections.²⁰ This has been framed as an insurance-oriented approach, hedging against the uncertain risks of climate change impacts instead of anticipating costs.

If we take the carbon tax as the preferred climate change policy option, the next question becomes pace of implementation. The incremental price increase model might take one of two approaches: start with a high price which more closely approximates social cost estimates and increase modestly each year or start lower and increase at a steeper rate. These approaches can be thought of as “sprint” and “marathon” designs respectively.²¹ The idea behind the sprint model is that jumping straight to a sufficient social cost approximation maximizes the carbon tax's market signal effect and communicates the gravity of carbon emissions' impacts from the outset.²² This employs a market shock strategy, relying on revenue recycling to protect consumers while businesses are sent reeling toward cleaner practices and technologies. The marathon approach, by contrast, aims to ease the economy into cleaner development, particularly because the alternative could mean damning

²⁰ James Handley, “Don’t Anchor a Carbon Tax to the Social Cost of Carbon.” *Carbon Tax Center*, 8 June 2015. <<http://www.carbontax.org/blogarchives/2015/06/08/dont-anchor-a-carbon-tax-to-the-central-social-cost-of-carbon/>>

²¹ *Ibid.*

²² Personal interview, Robertson C. Williams III, Resources for the Future, Washington, D.C., 14 July 2015.

political backlash. An outset price of \$15/ton, for instance, rising \$10 annually presents minimal burden up front while reaching substantial effect within a short span of years. For this reason, the marathon model is preferred by most economists actively engaged in advocacy for a carbon tax, as demonstrated by their signatory status on the Carbon Tax Center's open letter to the Paris U.N. climate summit (including Wesleyan's own Gary Yohe), which includes as its second point: "Carbon taxes should start low so individuals and institutions have time to adjust, but then rise substantially and briskly on a pre-set trajectory that imparts stable expectations to investors, consumers and governments."²³

Debates over price setting are minimal compared to the critical question of how carbon tax revenues are to be allocated. The passage of a national carbon tax would mean the introduction of a massive stream of revenue to the federal government. It is no surprise then that some policy makers have been eager to imagine using that money to fund renewables development or the national highway trust. However, the prominence of Grover Norquist's Taxpayer Protection Pledge among Republican members of Congress has made the passage of bills increasing taxation politically impossible. Given that the G.O.P. is projected to retain its majority in the House of Representatives for the near future and that all revenue bills must originate in the House, a carbon tax cannot be realistically expected to exist in the foreseeable future without being revenue neutral – that is, using its revenues to offset other taxes.

²³ Charles Komanoff, "A Call to Paris Climate Negotiators: Tax Carbon." *Carbon Tax Center*, 29 November 2015. <<http://www.carbontax.org/blogarchives/2015/11/29/a-call-to-paris-climate-negotiators-tax-carbon/>>

Revenue neutrality is not a hindrance to carbon tax design, however. In fact, maintaining revenue neutrality through tax swaps is the most straightforward way to keep the double dividend appeal of the carbon tax in focus. The double dividend hypothesis, evolved from Alfred Pigou's theory of negative externality taxation, presents a win-win scenario. In a realized double dividend, the tax succeeds in reducing the bad it is levied against – in this case carbon emissions – while using the revenue to promote a good. A carbon tax could thus for instance be used to offset distortionary payroll taxes, encouraging work while providing incentive for emissions reduction.²⁴ Such a tax swap would effectively function like a value-added tax, encouraging reduced consumption and increased investment, a model preferred by many economists and European finance ministries. This potential is the key factor which makes the carbon tax feasible as a bipartisan climate change policy, to be explored further in the following chapter.

The main suggested alternative revenue neutral option to tax swaps is a direct payment to all U.S. citizens of the money raised by a carbon tax, usually at a flat rate, commonly referred to as fee-and-dividend. Citizens' Climate Lobby, the largest climate change policy lobbying organization in the world by far, is notable for promoting this model for its simplicity and equity in the hope of bipartisan appeal. Founded in 2007, Citizens' Climate Lobby favors a straightforward dividend over other revenue neutral options for several reasons. The dividend's direct return to citizens at a flat rate means as little manipulation of numbers as rates as possible, protecting the policy from additional deal making that might undermine its goal. In

²⁴ Ian W.H. Parry; Robertson C. Williams; and Lawrence H. Goulder, "When Can Carbon Abatement Policies Increase Welfare? The Fundamental Role of Distorted Factor Markets." *Journal of Environmental Economics and Management* 37.1 (1999): 52-84.

addition, a flat rate of return, while not the most progressive redistribution, proportionally benefits the poorest most, protecting against the regressive potential of rising energy costs. The hope of fee-and-dividend proponents is that a direct payout from the carbon fee to citizens, through its simplicity and ease of understanding, will generate a populist support similar to entitlement programs. Fee-and-dividend is not favored by most economists as it fails to maximize the efficiency potential of other revenue neutral options. As the International Monetary Fund's Ian Parry put it, "Returning revenue in lump sum transfers is the worst possible outcome in terms of efficiency." If the policy's greatest concern is protecting the poor, research into the distributive impacts suggests that only 10% of revenue is needed to offset the burden of a carbon tax on the lower income quintile.²⁵

Politicians who obstruct climate policy efforts often attest that national climate action would be either environmentally ineffectual or economically devastating if undertaken alone. Though both claims prove false, they are easily laid to rest under a carbon tax with the incorporation of border tax adjustments, or a "carbon tariff." Through a border tax, goods entering the U.S. from countries without their own carbon price would incur a fee proportional to their carbon content or footprint. This border adjustment serves multiple aims. First, it prevents the carbon leakage problem of outsourcing production to countries with looser or non-existent climate policy. Second, and relatedly, it keeps U.S.-made goods under the carbon tax competitive with equivalent imports by having all goods reflect carbon impact. Third, it pressures other nations to adopt their own carbon prices at the same level as the

²⁵ Personal interview, Ian Parry, International Monetary Fund, Washington, D.C., 16 July 2015

United States. The resulting process of trading nations matching a U.S. carbon tax is called harmonization and would mean the U.S. taking lead on global carbon pricing should the carbon tariff be administered correctly.²⁶ Alternatively, if other nations should adopt a carbon tax before the U.S. and use tariffs in this fashion, American businesses will be paying the tax to the treasuries of trading partners instead. The World Trade Organization has yet to issue guidance on whether such a tariff would be permissible under its rules, but most economists predict that such a policy would be perfectly acceptable. If not, global climate action stands to be a compelling reason to revise the WTO's rules.

Opportunity for Tax Reform

With the requirement of revenue neutrality, the promise of double dividend, and the security of border adjustments, the carbon tax is well positioned to be a lynchpin of potential tax reform. As Morris and Mathur write, “A carbon tax could create opportunities within a tax reform package that may not otherwise exist. Taxing something we do not want (e.g, greenhouse gas emissions) rather than something we want more of (e.g., productive labor and investment) could help lower the economy-wide cost of the program and may even have economic benefits in addition to its environmental benefits.”²⁷ What form a carbon tax based reform package would take

²⁶ See Trevor Houser, *Leveling the Carbon Playing Field: International Competition and US Climate Policy Design*. Washington, D.C.: Peterson Institute for International Economics, 2008.

²⁷ Aparna Mathur and Adele C. Morris, “Distributional Effects of a Carbon Tax in Broader U.S. Fiscal Reform.” *Energy Policy* 66 (2014): 326-34.

A carbon tax designed to encourage economic growth initially appears ecologically contradictory, as increased growth would be expected to bring higher consumption and associated carbon emissions. The optimistic expectation, however, is that with a rising price over just the first few years emissions

is a matter of economic debate and ultimately a political determination, but several options have been proposed as most effective for meeting major reform objectives.

Functionally, the nuances of revenue neutral carbon tax reform consist of which tax or taxes are offset and in what combination and proportion. While all of these options are purported to be economically beneficial, the question of who benefits mirrors broader disputes over economic equity. The revenue use debate falls largely between the priorities of maximizing wealth generation and equitable or progressive impact. In general, decreasing the corporate income tax best serves the GDP objective, providing lump transfers stands to be most progressive, and labor tax offsetting lies somewhere between depending on design.

Using a carbon tax to reduce the corporate income tax has become a favored approach of conservative proponents. The tax swap promises the highest potential GDP increase compared to other options, maximizing efficiency in decreasing greenhouse gas emissions and increasing nominal wealth simultaneously. Who benefits from that wealth remains a reasonable question, however, and the corporate income option is most assuredly the least progressive as “the evidence on the incidence of corporate taxes is mixed.”²⁸ Importantly, its economic boon could draw the attention and potential support of Republican policymakers not otherwise inclined to consider climate change policy, to be explored further in Chapter IV.

Lowering the national labor income tax through carbon tax revenue has been a favored option of economists for decades as an elegant illustration of the double

abatement from efficiency improvements and shifts to renewables incentivized by the carbon tax will outpace increases from the policy’s economic benefit.

²⁸ Ibid.

dividend. Discouraging pollution while providing greater incentive for work promises far-reaching net benefits. How far remains a concern however, as without additional protection measures the benefits of the carbon tax would not reach those without earned income (including retirees) or who make so little as to be exempt already from the federal income tax. If proponents of a labor tax swap ultimately favor it for its equity, the inclusion of additional protections for the poor – which as stated above only require 10% of revenue – is a necessity.

Lump sum transfers, the fee-and-dividend model largely disfavored by economists, provide greatest promise of a progressive distributive impact at greatest sacrifice of double dividend potential. By reaching all citizens at a flat rate, lump sum not only reaches the non-working poor but also proportionally benefits them most. Despite the skepticism of most economists engaged in carbon tax research, fee-and-dividend could spur indeterminate economic stimulus particularly in a slack economy through the multiplier effect of increased consumption.^{29, 30} Given the uncertainty of such a payoff, however, and the far greater assurance of economic benefit using tax swaps, there is understandable hesitance to embrace lump sum as the best driver of more ecological investment.

Notable in all of these cases is the ease of implementing tax reform through a carbon tax. Simply decreasing distortionary taxes imposes virtually no administrative burden while the upstream collection involves extending existing excise taxes on fossil fuels, concerning just 1,500 to 2,000 firms – a small number in the scheme of a

²⁹ Ibid.

³⁰ Shi-Ling Hsu, Presentation at Citizens' Climate Lobby Conference, Washington, D.C., 22 June 2015

national program.³¹ Indeed, it would eliminate administrative burdens and the resources wasted through efforts to game the tax code. Compared with the market machinations of carbon trading regimes, the carbon tax is staggeringly uncomplicated to implement. This advantage goes beyond reducing bureaucratic headache – lower cost of implementation means a far more efficient and therefore effective abatement policy compared to command-and-control regulation. From a political economy perspective, it also aids in having a carbon tax treated as the foundation for further climate change policy instead of expending greater political capital and exhausting the currently very difficult legislative process on the complexities of carbon markets.

Other Options

Despite the likely necessity of revenue neutrality for a politically feasible carbon tax, a handful of other revenue uses have remained relevant in policy discussions. Foremost is something of the opposite of revenue neutrality: using all revenue to pay down the national debt. While this alone does nothing to guard against distributional impacts of the price hike or directly stimulate investment through revenue recycling, the revenue flow from a carbon tax would be substantial enough, particularly over annual increases, to make a considerable dent. This channeling would ultimately increase GDP as well, since at present roughly 6% of the annual federal budget is used to pay interest on the national debt – a considerable sum. Though likely a political non-starter, the debt reduction option might find supporters

³¹ Personal interview, Ian Parry, International Monetary Fund, Washington, D.C., 16 July 2015

among balanced budget obsessives in Congress, though the right is not likely to favor fiscal reform by way of higher taxes overall.

A similar but more directed revenue use would be to use the funds to bail out entitlement programs facing chronic insolvency issues, saving Social Security and Medicaid from worsening fiscal situations. This may not even require the full revenues of a carbon tax as its yield increases annually and opens the possibility of partnered advocacy with political actors concerned with entitlement reform in what might be called a Green-Gray Coalition, securing benefits for the aging generations and ideally climate stability for generations to come. This approach is almost nowhere discussed at present – something of a pity, as it could be an untapped well of political will for a double reform policy package.

More arguments around revenue use concern what the funds should be partially used for in addition to the primary tax swap instrument to aid clean development adjustment. Using some revenue for renewable energy technology subsidies remains a major negotiation goal of the environmental mainstream on the grounds that “policy should align to match our priorities in eliminating our greenhouse gas emissions,” to which end carbon pricing and renewables investment are “arrows in a quiver.”³² This use of revenues would raise serious concerns for conservative and libertarian advocates of the carbon tax, however, given that they have traditionally rejected government forays into industrial policy.

Putting revenue towards occupational transition funding for workers employed by the American fossil fuel industry, particularly coal miners, has been

³² Personal interview, Carol Werner, Environmental and Energy Study Institute, Washington, D.C., 3 June 2015

advocated for by those with labor and coal country concerns over what economists call “lost assets” in a clean energy transition. Such funding would cover workers’ education and retraining or could go so far as to provide immediate and permanent retirement for miners, a benefit that would take relatively little of the full revenue stream, though would do little to address the broader concern of facilitating the transitions of regional economies, primarily in Appalachia, highly reliant on the coal industry at present.

Beyond Climate Change Policy

Though the initial imperative for a carbon tax is the reduction of greenhouse gas emissions, using its revenue as an effective entry to tax reform raises it as a vital fiscal policy as well. This opportunity invites a broader base of political support than traditional environmental policy efforts – in particular regulation-based ones – tend to generate. Business especially benefits from a carbon price as an economy-wide market signal favoring clean technology innovation. A carbon tax addresses the collective action problem of fossil fuel reliance by eliminating what some call fossil fuel’s “invisible subsidy,” its unaccounted for social cost. Thus, industries which previously found cleaner development prohibitively costly or too great a competitive risk are instead incentivized in competing to find ways to provide their products and services as cleanly as possible, only more so as the price increases over time. With a sufficiently high price, this could mark the start of a sea change away from carbon intensive practices and toward a green economy.

Carbon Price Plus

For many advocates of a carbon tax, simply imposing a price is not sufficient to bring about a reduced carbon economy. The concomitant elimination of all energy subsidies – to fossil fuels as well as renewables – is often insisted upon as a means of “leveling the playing field” for energy technologies, allowing them to compete on their own merits after the internalization of hydrocarbons’ social cost. This argument meets understandable resistance from those who believe government investment in renewable energy is an important means of hastening technology transfer and carbon abatement. Still, it is likely to be a crucial part of a political deal-making process should the carbon tax become feasible in Congress.

Beyond energy policy, a carbon tax reform package provides the opportunity to assess ecological issues in the American tax code. Most prominent are surely those benefits afforded to industrial agriculture, or “big ag,” which subsidize food production methods associated with environmental degradation and high carbon intensity. Corn, beef, and dairy production in particular are heavily supported by federal funds which disadvantage smaller farmers and the production of other crops. The conservative Harvard economist Greg Mankiw, also relevant for his substantial “Pigou Club” list of pro-carbon tax economists, has noted the 85.2% consensus of economists in the belief that “the U.S. should eliminate agricultural subsidies.” The list also includes 65% agreement that “the U.S. should increase energy taxes,³³” which might broadly be interpreted to include a carbon tax, though a revenue neutral carbon tax program specifically attracts even greater support. Indeed, generating

³³ Greg Mankiw, “The Consensus of Economists.” 30 November 2006.
<<http://gregmankiw.blogspot.com/2006/11/consensus-of-economists.html>>

support for a carbon tax might ideally open further consideration of economic policies which the majority of economists have long advocated for to no avail due to political entrenchments. First, of course, the political will for a carbon tax must be built, a process which the following chapter will explore in detail.

Conclusion

Given ideal policy designs, choosing between the market-based options of cap-and-trade and a carbon tax should have been a matter of preferring emissions reduction certainty to price certainty or vice versa. Instead, the lessons gained from observing carbon trading over the little longer than a decade since the inception of the EU ETS in 2005 suggest that political corruptions cause it to fundamentally fail at its most important purpose: achieving substantial emissions reductions primarily at the expense of polluters. The U.S. cap-and-trade scheme that never was, at least from the text of Waxman-Markey by the time of its passage, did not promise a better fate. While these outcomes have given “carbon pricing” an ill reputation among those concerned about justiciable climate action, a carbon tax still holds the promise economists have advised it to have for decades, offering efficiency and transparency where carbon trading has ultimately possessed neither.

Chapter IV: The Current Debate

The prospects of a carbon tax in the United States are better at present than they have ever been. Though this provides no guarantee of climate action, several forces traditionally seen as resistant to government action on environmental matters, most notably conservative elites and major corporations, have come to voice strong support for climate action in the form of a carbon tax as an alternative to looming Clean Power Plan regulation. These policy actors may present divergent aims for what the use of hypothetical carbon tax funds should be, but most critical is that consensus is at last building around the policy as a more than sensible climate change solution. Understanding the merits of a carbon tax will surely prove equally important as framing the policy for political favor. Most notably, its design may provide Republican members stuck in public denial of climate change an out in supporting climate change policy which offers substantial economic co-benefits.

Coalitions and Trends

The prospects of a carbon tax have to go through the Right. – Jerry Taylor¹

Denial of climate science has never been the unanimous position of American conservatives. Particularly as scientific consensus on the threats posed by climate change has solidified, intellectuals on the right have come to share the concern many environmental groups have had from the beginning. This has not meant conservative elite support for liberal efforts at greenhouse gas regulations, but has meant increasing consideration of alternatives – that is, national climate change policy –

¹ Personal interview. Jerry Taylor, Niskanen Center, Washington D.C., 2 July 2015

among conservatives and business leaders. This consideration has come to focus on a carbon tax in particular for its apparent benefits and compatibility with conservative policy priorities. Translating this relatively newfound support into real climate action promises to be a substantial political challenge, but one with enormous reward.

Movement on the Right

Conservatives should embrace a carbon tax (a much less costly means of reducing greenhouse gas emissions) in return for elimination of EPA regulatory authority over greenhouse gas emissions, abolition of green energy subsidies and regulatory mandates, and offsetting tax cuts to provide for revenue neutrality.

- Jerry Taylor, The Conservative Case for a Carbon Tax²

After many years as the pet policy of environmentally concerned economists, the carbon tax has gained considerable momentum in the past few years. The editorial boards of the *New York Times* and *Washington Post* have written in support of a U.S. tax and op-eds across various major press sources expressing the same have now become frequent reading. Writings of support by conservative economists and officeholders from previous Republican administrations have received special attention for breaking the public's usual association with the right as opposing both climate action and taxation. This emerging discourse among conservative elites especially has opened the possibility of a carbon tax becoming politically feasible through particular avenues of bipartisan coalition building. Navigating that policy formation process will prove no less difficult, however, and examining the dynamics of pro-carbon tax coalitions' various goals and preferences is critical to understanding the policy's potential.

² Jerry Taylor, "The Conservative Case for a Carbon Tax." Niskanen Center, 23 March 2015.

The Climate Change Closet and the Risk Argument

It is fairly uncontested that the Republican Party has mounted considerable resistance to climate change policy in America and espoused doubt as to the existence and severity of climate change as a problem, as shown in Chapter II. Trends on the political right which aim to dismantle the denialist base and champion a carbon tax as a conservative policy are of great significance to the current moment. While nearly all elected Republicans remain in the “climate change closet,”³ prevented from advocating for climate action for fear of electoral repercussion, a great many privately and anonymously recognize the threat of climate change and the need for national response.⁴ Meanwhile, intellectual conservative and libertarian elites – economists and policy analysts – have become increasingly vocal in advocacy for a carbon tax, chiding the Republican Party for its obstinacy on climate change and lobbying for conservative leadership on the issue.

Elite arguments on the political right in favor of a carbon tax are couched primarily in terms of market factors and risk management. By their reasoning, current Republican inaction on climate change is a failure to account for climate change the way they might any other financial risk. Given the level of economic harm most climate change models project, even lawmakers skeptical of the likelihood of significant climate-related damages ought at least to address the issue as a low probability, high risk threat, framing climate change policy as a national insurance program against disaster. Notably, the Department of Defense has become increasingly concerned about national security risks posed by climate change impacts,

³ Zeller Jr.

⁴ Personal interview, Sarah Hunt, Niskanen Center, Washington, D.C., 8 July 2015

holding since 2010 that “climate change, energy security, and economic stability are inextricably linked.”⁵ Even if climate impacts estimated to be most likely could be dealt with effectively under existing policies, the “fat tail” scenario – unlikely but disastrous climatic shifts – certainly could not, and a Congress exercising any degree of precaution would hedge against it.⁶ Furthermore, guaranteed co-benefits to greenhouse gas reduction, like particulate pollution reduction, promise health benefits and associated cost savings.

This counterargument to mainstream conservative rhetoric on climate change marks a broader governance debate on how to deal with unknowns in policymaking. For the better part of the climate change conversation in this era of polarization, conservative politicians have used uncertainty to justify inaction by suggesting that incomplete information or uncertainty about economic impacts precludes the possibility of effective policy. Climate policy proponents have long condemned such arguments as diversionary and irrational. These recent risk-based conservative arguments have furthered the additional criticism that Republican obstructionism on climate action is ideologically inconsistent. For a party associated closely with free market policy, an unwillingness to even consider the possibility of economic devastation by environmental catastrophe and insure against it is dubious at best and idiocy at worst.

⁵ See *Quadrennial Defense Review*, United States Department of Defense, February 2010. xv.

⁶ Jerry Taylor, “The Conservative Case for a Carbon Tax.” Niskanen Center, 23 March 2015.

Our Players

Three organizations in particular have taken up the cause of shifting congressional Republicans' stance on carbon pricing. RepublicEn, R Street Institute, and the Niskanen Center, all formed in the past four years and based primarily in the Washington, D.C. think tank circuit, stand as a representative triad of the climate schism on the political right that has grown considerably in visibility since the start of the decade. Each of their origin stories is a critical piece in the broader narrative of a nascent climate-savvy right.

RepublicEn is the advocacy and community organizing arm of the Energy and Enterprise Initiative based at George Mason University, founded by the martyred Bob Inglis in July of 2012 shortly after losing his South Carolina seat (see Chapter II) to follow through on the vision for conservative climate change leadership that precipitated his primary election defeat. RepublicEN seeks to dismantle the Republican orthodoxy's holding that conservative and free-market minded Americans oppose climate action and to disrupt the prevailing messaging of climate denial from the conservative establishment. As Alex Bozmoski, RepublicEn's Director of Strategy & Operations, stated in an interview "[climate denial] is already part of the institutional theology of the far right." His organization's mission, then, is to wrest control of the climate policy debate on the right from that extreme based on the knowledge that there are "so many way to [address climate change] that net benefit all Americans."⁷

⁷ Personal interview. Alex Bozmoski, RepublicEn, Washington, D.C., 26 June 2015

“Conservative and concerned about climate change? You’re not alone.” reads RepublicEn’s website welcome banner.⁸ Advertising itself foremost as a community of “energy optimists, climate realists,” the group might be thought of as both coalition organizing and consensus breaking simultaneously. Unlike the other two prominent free market carbon tax proponent organizations, RepublicEn is not dedicated to the generation or analysis of conservative climate policy ideas, but to being the premier association of those people who share them. This role could prove crucial to the accomplishment of a carbon price if it succeeds in paving the way for Republican leaders to exit the climate change closet by demonstrating sufficient constituent support.

R Street Institute is a free market and limited government think tank based in D.C. that was founded in 2012 by Eli Lehrer and R.J. Lehmann in a defection from the Heartland Institute, widely considered the largest institutional sponsor of climate change denialism in the United States. As president of R Street, Lehrer has used the think tank to explore and advocate for conservative climate change policy options – specifically a carbon tax. R Street’s Energy Policy Director is Catrina Rorke, who while serving in Bob Inglis’ staff largely wrote his carbon tax bill. Its history in relation to Heartland and Inglis alone makes R Street an important symbol of a changing conservative landscape on climate. Its political assertions might be the best current indicator of what a serious bipartisan negotiating table on a carbon tax might look like.

⁸ <<http://republicen.org/>> home page.

To hear Lehrer and Rorke, individually, make the case for a carbon tax – and for why the left has thus far prevented one – is to get a good summary of the political conflict to follow even if desire for a carbon tax were to achieve both parties’ support. For Lehrer a carbon tax represents “a good way to get some stuff I want anyway” – that is, tax reductions and deregulation – while achieving greenhouse gas reductions. To him and his ilk, no matter the extent of the potential damages of climate change, we can be certain “it is better to be richer in the future,”⁹ something of a mantra in the free-market climate action camp. Rorke identifies the Democratic environmental mainstream’s reluctance to consider a carbon tax as replacement for command-and-control regulation rather than an addition to EPA authority as the policy’s greatest obstacle.¹⁰ R Street thus espouses that the effort to garner carbon tax support is two-sided: the Republican Party needs sufficient incentive to come around on supporting climate change policy while the Democratic Party needs to relinquish its insistence on costly environmental regulation a tax could serve to supplant, a dogma to be explored further below.

Cementing it as a pivotal year for the U.S. carbon pricing debate, 2012 furthermore saw the defection of Jerry Taylor from the libertarian Cato Institute over internal disputes regarding Koch Brothers influence. In early 2015, Taylor founded the Niskanen Center to better engage libertarian interests on Capitol Hill, with a carbon tax at the forefront of its agenda. Convinced of the severity of looming climate change crisis and the effectiveness of a carbon tax as a solution, Niskanen has worked extensively to gauge Republican representatives’ private beliefs on climate action and

⁹ Personal interview. Eli Lehrer, R Street Institute, Washington, D.C., 12 June 2015

¹⁰ Personal interview. Catrina Rorke, R Street Institute, Washington D.C., 9 July 2015

communicate the benefits of tax reform based around a carbon tax on the belief that “prospects of a carbon tax have to go through the right.”¹¹ Thanks to his more than twenty years’ experience in the free market libertarian establishment, Taylor’s vocal work on climate action has garnered him attention as something of an iconoclast on the right. This has quickly thrust him to be the face of the libertarian climate action case, a role clearly on display in his presentation at the unveiling of the Whitehouse-Schatz carbon tax bill at the American Enterprise Institute in June of 2015.¹²

Although each of the above organizations is engaged in a variety of activities surrounding carbon tax efforts, their particular specializations make up an effective three-pronged approach in generating climate action of the right. RepublicEn’s community focus stands to build conservative constituency support and dispel the status quo of denialism. R Street’s legislative background and focus on the implications of the mainstream Republican position put it in the important role of anticipating the debates to come should a carbon tax reach Congressional consideration. Meanwhile, Niskanen is most engaged at the elite level, using its story of conversion to climate action as momentum to bring closeted climate change belief in the G.O.P. to the fore as political will around carbon pricing. Though the prospects of the passage of a carbon tax in the near future are hazy, should it come to pass it is sure to be out of repositioning on the right due in no small part to these three think tanks.

¹¹ Personal interview. Jerry Taylor, Niskanen Center, Washington D.C., 2 July 2015

¹² An event I was present for. Full recording is available. “To Tax or Not to Tax: Senators Sheldon Whitehouse and Brian Schatz Present Their American Opportunity Carbon Fee Act.” *American Enterprise Institute*. 10 June 2015. <<https://www.aei.org/events/to-tax-or-not-to-tax-sen-sheldon-whitehouse-presents-his-american-opportunity-carbon-fee-act/>>

Issue Ripening on a Carbon Tax

A carbon tax might have no hope at all were it not for the looming prospect of climate action by other means – the Obama administration’s Clean Power Plan. As Jerry Taylor explains in *The Conservative Case for a Carbon Tax*, “The only political alternative to a carbon tax is command-and-control regulation. Those regulations are firmly entrenched in law, and there is no plausible scenario in which they are removed by conservative political force.”¹³ The leverage of a like-it-or-not eventuality of climate change policy is the critical piece to overcoming conservative unwillingness to even consider climate change as a threat, a piece which might not have existed without the Supreme Court’s *Massachusetts v. EPA* ruling. As it stands, however, a carbon tax has become politically appealing for its potential to preempt EPA regulatory authority on greenhouse gases. This vindicates the G.O.P.’s general objection to such regulation and is backed by economists’ consensus that command-and-control measures are the costliest means of reducing emissions, which ultimately means reduced ecological benefit.¹⁴

Not surprisingly, regulatory preemption is a deal environmentally concerned Democrats are hesitant to embrace. Faith in the free market is not a hallmark of the left in general, even at the urging of decidedly left of center economists and other advocates on a carbon tax in particular. For them, assurance of reductions is the priority, meaning a “belts and suspenders”¹⁵ combination of a carbon price and

¹³ Taylor, Jerry. “The Conservative Case for A Carbon Tax.” 2015

¹⁴ See Shi-Ling Hsu, *The Case for a Carbon Tax: Getting Past Our Hang-ups to Effective Climate Policy*. 2011.

¹⁵ Personal interview, Adele Morris, Brookings Institution, 16 July 2015.

regulation. Notably, the Democratic authors of high profile carbon tax bills have to this point kept preemption out of their conversation, though it can be anticipated to be a major part of negotiations, particularly given the precedent inclusion of preemption in Waxman-Markey.¹⁶ Democrats thus find themselves in a non-starter position of perhaps preferring a carbon tax as a climate policy, but being unwilling to forfeit the security of EPA authority, their primary bargaining chip in reaching any kind of bipartisan support.

The most promising compromise on the preemption impasse is the possibility of suspending the rules of the CPP as a fail-safe mechanism. That is, a carbon tax shall preempt EPA authority so long as it succeeds in meeting the CPP's emissions reductions goals. Should it underperform, the command-and-control alternative would kick in to ensure abatement. This provides a carbon tax the grace period to prove its reduction effectiveness to the skeptical, a feat which should be easy given the CPP's targets and the likely pace of reductions under the tax.¹⁷ The CPP's command-and-control components, based on an ambitious legal interpretation of the aging Clean Air Act which continues to face judicial challenges, pale in effectiveness compared to a carbon price and are unlikely to meet the rules' own reductions targets. Indeed, climate action groups have launched campaigns to adopt carbon taxes as the primary compliance measure for states, in the ultimate hope that they might provide a model for a federal tax. Suspension could well be the endgame key in carbon tax

¹⁶ Personal interview, Joshua Karetny, Chief Economic Counsel to Senator Sheldon Whitehouse (D-RI). Washington, D.C., 10 July 2015

¹⁷ David Bailey and David Bookbinder, "How High Would a Carbon Tax Need To Be To Hit CPP Emissions Reductions." *Climate Unplugged*, Niskanen Center, 14 June 2015. <<https://climateunplugged.com/blogpost/?postid=1238>>

negotiation, though as Resources for the Future’s Rob Williams put it, suspension of the CPP rule is somewhere between “perfect compromise and something nobody likes.”¹⁸

Shifting climate policy responsibility from executive rulemaking to legislative lawmaking is also imperative to rescue climate action from the danger of erasure by a change of administrations. Though the Court’s mandate cannot be ignored cavalierly, a climate change skeptical Republican presidency, for example, could easily use executive authority to strip the Obama White House’s rules of meaningful efficacy. Executive rules on greenhouse gases could face threats by Congress as well through appropriations riders banning use of federal funds to administer the Clean Power Plan. Real security and longevity of U.S. climate change policy can only come through new law, making the preemption of EPA authority a rather small caveat in the broader scheme of policy strategy.

In the international context, the climate agreement reached in Paris by the United Nations Climate Change Conference in December of 2015 was surprisingly ambitious compared to previous documents. Though it was designed specifically to avoid binding the United States to any commitment our Congress would have to approve – a longstanding lesson from Kyoto – the new goals mark a distinct shift away from prioritizing carbon trading as the preferred global climate change policy instrument, opening emissions reductions efforts to a wider discussion of carbon pricing options. As a result, the global climate action scene is more favorable to carbon taxes than ever, though the nonbinding nature of such U.N. agreements leaves

¹⁸ Personal interview, Robertson C. Williams III, Resources for the Future, Washington, D.C., 14 July 2015

the ultimate impact of this change open to question. At present, the results of the Paris conference are unlikely to directly influence the U.S. political scene explored here, but global investment trends toward clean technology may generate a ripple effect of indeterminate importance.¹⁹

Political Economy of a Carbon Tax

There are two reasons for congressional unpopularity. Number one: carbon. Number two: tax. A perfect storm of words and ideas that set people off. – Michael Obeiter²⁰

The fight for an effective carbon tax will not cease with the passage of a bill. Like any controversial policy, minding its upkeep and repercussions is crucial, particularly in the early stages of implementation – Obamacare, which has sustained dozens of House votes either for its repeal or the withholding of funds for its implementation, serves as the quintessential contemporary example.²¹ Stubborn opposition and efforts for repeal may be easily expected and all the more plausible if the route to the tax is not sufficiently bipartisan. The repeal of Australia’s nascent carbon tax by its Liberal Party just two years after its passage under a Labor government demonstrates the importance and difficulty of carbon pricing’s political survivability. For a U.S. carbon tax, the most crucial factors will be price maintenance authority, revenue allocation (neutrality in particular), public

¹⁹ Pricing Carbon Initiative Dialogue. Brookings Institution, Washington, D.C., 17 December 2015

²⁰ Personal interview, Michael Obieter, World Resources Institute, Washington, D.C., 8 June 2015

²¹ Ed O’Keefe, “The House Has Voted 54 times in Four Years on Obamacare. Here’s the Full List.” *Washington Post*, 21 March 2014. <<https://www.washingtonpost.com/news/the-fix/wp/2014/03/21/the-house-has-voted-54-times-in-four-years-on-obamacare-heres-the-full-list/>>

understanding and approval, and avoiding the dangers of legislative riders and other policy corruptions. Let us address each in turn.

Price Maintenance

While ideally the ratchet mechanism pricing progression of a carbon tax should be technocratic or simply automatic, such a reality is made difficult politically. A nationwide tax, as a matter of the federal budget, is always subject to amendment or repeal by a future Congress, much as a hypothetical CPP-compliant state level tax might have nothing to be compliant with if a subsequent presidency were to curtail or eliminate EPA climate regulation. Given lack of precedent and the substantial revenue a carbon tax would bring, it is highly unlikely pricing determination or authority would be yielded to any institutional body other than the House of Representatives. The only way for a carbon tax to survive and increase as designed is to do whatever is possible to make altering the policy politically unappealing to representatives, most likely through generating at least a voting majority of public support.

A carbon tax, though critically an environmental policy, is foremost a tax, meaning any carbon tax bill would originate from the House Committee on Ways and Means rather than the House Committee on Natural Resources. In light of this, there is legitimate concern that a carbon tax bill which makes it to a floor vote could easily prioritize budgetary needs and wants over the aim of greenhouse gas emissions reduction. Concern over fiscal-minded tinkering is a major reason most carbon tax proposals contain such neat numbers as \$15 rising \$10 each year or \$40 rising \$5 rather than a more nuanced – and contestable – determination based on social cost.

Longevity and Public Framing

Though a simple ratcheting price increment plan goes a long way to protect against meddling or murky calculations, a carbon tax does little good without surviving its first years of implementation, especially when the price is purposefully – and less effectually – low to allow for economic adjustment. Even when Congress failed to pass cap-and-trade, supporters of Waxman-Markey were attacked as favoring a livelihood-destroying “energy tax” in their 2010 reelection campaigns. Even in the event of a bipartisan carbon tax, similar attacks can be expected from far right conservative critics. The framing of a carbon tax in the public consciousness is thus of vital importance in achieving policy longevity. How to sell climate policy, not to mention one with “tax” written large and clear, presents a serious challenge.

A carbon tax is easily painted as burdensome on the average American. The tax is designed explicitly to correct for the fact that society does not account for the social cost of climate change in current status quo business transactions. As such, the paradigm shift a carbon tax represents can expect to be stymied by the usual reactionary forces. The objections are by now predictable: it increases energy costs, shifts financial favor away from a well-established fossil fuel industry, and looks from the outside like a large wealth transfer to a central government. While all three misgivings are *prima facie* true, their connective tissue is a calculated lack of consideration for the revenue recycling element of most serious carbon tax proposals. Concern over the feeling that one’s money is being taken from them naturally

exceeds concern over the many channels through which a pot of federal money is ultimately divvied. In this case, assuaging the former is best done by emphasizing the latter. To have a reasonable hope of support, even a tax design which isn't entirely revenue neutral will have to be transparent in addressing distributional impacts. A focus on the net benefit appeal of a carbon tax will be vital in political messaging on the policy – the titling and language of Senators Whitehouse and Schatz's American Opportunity Carbon Fee Act provide a prime current example.

Much like the statutes of the Environmental Decade, a carbon tax effort should emphasize the environment – in this case carbon mitigation and climate security – as a public good held in trust. Citizens' Climate Lobby's fee-and-dividend proposal is notably designed with this populist longevity in mind. By distributing the revenues of a carbon levy to all citizens at an equal rate, CCL's proposal epitomizes the idea that climate change has a universal impact. While this model has significant flaws and opportunity costs (elaborated in the tax design section of Chapter III), the organization's active cultivation of an entitlement culture around climate policy while maintaining concern for low income citizens offers important lessons. A monthly "your carbon dividend" check in the mail would be sure to garner greater individual constituent favor than a trickled down corporate income tax offset dissolved into the nigh invisible slew of government benefits Suzanne Mettler calls "the submerged state."²² While such a dividend delivery scheme would be as cumbersome as it is unlikely, the need to have a carbon tax's benefits *felt* by the public is integral to keeping it from being gutted in the future.

²² See Suzanne Mettler, *The Submerged State: How Invisible Government Policies Undermine American Democracy*. Chicago: University of Chicago, 2011.

The contention that a carbon tax is bad for business is another persistent reservation against it among the general public. In truth, such a tax is “bad” for one industry in particular (coal) and supported with growing fervor by many of the world’s largest corporations, most notably “big oil” leaders Exxon Mobil and British Petroleum on the understanding that such a price is ultimately good for their business. In the short term, the tax would give oil companies and their natural gas holdings a competitive advantage over coal in the electricity generation sector due to the considerably lower carbon dioxide output of gas combustion. On a longer time horizon, however, businesses see climate change policy as inevitable and thus have come to seek out the option least detrimental to their growth – ideally an ecological win-win should that “growth” mean diversification as energy companies into renewables innovation. Elon Musk, founder of SolarCity and Tesla Motors – widely considered historic leaders in renewable energy and electric vehicle innovation – has been insistent on the necessity of a carbon tax in any program to address climate change. Specifically, Musk argues “To make it neither a left nor right issue we should make it a revenue-neutral carbon tax – increasing carbon tax and reducing tax in other areas like consumption taxes or VAT and in order to give companies time to react it should be a phased in approach,” and that the alternative of no climate policy means “more displacement and destruction than all the wars in history combined ... the dumbest science experiment in history.”²³

²³ Lenore Taylor, “Elon Musk Says Robust Carbon Tax Would Speed Global Clean Energy Transition.” *The Guardian*, 2 December 2015.
<<http://www.theguardian.com/environment/2015/dec/03/elon-musk-says-robust-carbon-tax-would-speed-global-clean-energy-transition>>

Although fossil fuel industry leaders have been public about support for a carbon price, they've done little in the way of cultivating political will for the policy. Sound bite support and open letters surrounding the Paris U.N. climate conference have made industry favor of a carbon tax known to those watching, but the broader population remains surprised by the level of support by business. Industry's unwillingness to take the lead on climate action is understandable: no CEO wishes to stake their reputation on the contentious issue of climate only to see the final policy bring some unexpected detriment. Furthermore, big oil's public favor for a carbon price has done nothing to curtail its outsized financial contributions to a G.O.P. currently locked in an anti-climate policy position. Yet an advertising effort anywhere near as substantial as recent campaigns for natural gas or tar sands oil would soundly dispel the notion of a carbon tax as anti-business, an understanding likely to increase support among many business-minded conservative voters. Engaging and forming a coalition of pro-carbon tax businesses would go a long way in creating not just initial but lasting support. A price with uncertain prospects of survival does little good for corporations' internal budgeting.

As with any policy open to controversy (which is to say most any policy these days), seizing the right moment of opportunity to pass a carbon tax is critical. While recent developments in the executive and judiciary branches on climate change have opened the opportunity for a bipartisan carbon tax in the legislature, as discussed above, such shifts in the political scene mean little to the average voting consumer. The greatest window of opportunity for easing the economy at large into a carbon tax is during a time of low fuel costs. At the time of this writing, oil prices are in a

downturn possibly deeper than the world has seen in two decades.²⁴ Each \$1/ton of a tax on CO₂ adds a little less than one cent to the price per gallon of gasoline – a minimal increase compared to the existing 18.4 cents per gallon federal Highway Trust Fund tax.²⁵ Thus, introducing such a price hike at a time of record low prices is the best way to minimize public resistance, or even notice, of a carbon tax’s effects. At present the oil downturn is projected to continue for some time, but failing to act on the opportunity quickly could mean losing the chance entirely.

One of the carbon tax’s key features is its transparency and simplicity, but any bill faces the danger of acquiring undesirable amendments on its way through the legislative process. In particular, the boon a carbon price would bring to the natural gas industry by virtue of the fuel’s lower carbon concentration relative to oil and coal might threaten to turn drafting of the policy into the pet project of the gas lobby. While the corruption of a carbon price bill by rent-seeking riders is troubling enough in and of itself, such additions could mean the loss of important contingents of support. A final bill perceived to give favors to the gas industry is sure to become the target of environmental watchdog organizations. Likewise, breaking complete revenue neutrality to subsidize renewables will lose the backing of those faithful to the market failure theory helping to bridge conservatives to the policy. Fortunately, balancing a bill against these influences will mean a more effective policy overall.

²⁴ Clifford Krauss, “Oil Prices: What’s Behind the Drop? Simple Economics.” *The New York Times*, 30 March 2016. <<http://www.nytimes.com/interactive/2016/business/energy-environment/oil-prices.html>>

²⁵ Joseph E. Aldy; Timothy J. Brennan; Dallas Burtraw; Carolyn Fischer; Raymond J. Kopp; Molly K. Macauley; Richard D. Morgenstern; Karen L. Palmer; Anthony Paul; Nathan Richardson; and Roberton C. Williams III, “Considering a Carbon Tax: Frequently Asked Questions.” Resources for the Future, 2 November 2012. <<http://www.rff.org/blog/2012/considering-carbon-tax-frequently-asked-questions>>

Conclusion

A U.S. carbon tax is at last finding traction where climate change as an issue more broadly could previously find none. The visions its recent conservative and libertarian advocates have for its design are sure to cause those on the left misgivings, but such is always the case. The essential development is the renewed possibility of bipartisan climate action when many perceived denialist influence had made it hopeless. Still, navigating the flow of support from conservative elites to Republican representatives and furthermore to the conservative public, many of whom have digested denialist obfuscation campaigns, will need to be a careful process. Negotiations are sure to demand compromise around revenue use and regulatory authority. For effective climate action, this is secondary to imposing a robust price. Even then, simply attaining a tax is not enough. It must survive and thrive if the planet is to do the same.

Epilogue: Alternate Endings

Waiting for the Clean Power Plan results is madness. It's anathema to actually caring about the environment. It's too long a road. At a certain point I have to wonder: does the environmental community care more about the EPA or the environment? ... EPA authority is a false security - Adele Morris¹

It can be all too easy in delving into the American climate change debate to lose sense of the scale of what is at stake. Even in the cloying summer heat of Washington, my conversations took me to air-conditioned office suites and the cool, marbled halls of Congress where the realities of climate disruption seemed far off. The humbling, nerdy thrill of being behind the scenes, the small secret “don’t quote me” (I didn’t) moments, and the active speculation toward a hypothetical negotiating table provide a kind of Beltway buzz excitement. In this way, for better or for worse, politics comes to feel like a game. Certainly there is grand strategy involved, and a range of players with important overlapping objectives and mutual trust issues – or else diametrically opposed objectives and irreconcilable polarization. On climate change especially, what it might mean to win such a game is complicated by how much else is lost as it drags on.

This thesis is not a celebration of a particular climate solution accompanied by a list of its friends and foes. It is, like most efforts toward climate action, a work of desperation. A carbon tax is not just an extraordinarily effective climate change policy, though thankfully it is that, but also quite likely the United States of America’s only real chance at effective climate change policy in the near future at all. For this reason, an understanding of the political dimensions of the tax, so particular

¹ Personal interview, Adele Morris, Brookings Institution, Washington, D.C., July 16th, 2015.

and sometimes idiosyncratic in detail, is critical to a consequent understanding of the potential future of the planet. America's influence in the era of globalization, and the influence of its climate change contributions, is difficult to overemphasize across an intergenerational horizon.

The unsurpassed importance of the response of the United States to global climate change makes its peculiar culture of denialism all the more tragic. This obstinacy might be easier to comprehend, though still contemptible, if America were appreciably removed from the effects of climate disruption. Such is not the case. Louisiana is the fastest disappearing state (that is, state or nation-state) by area on the planet.² Miami, Florida stands to lose more in real estate holdings' value to sea level rise than anywhere else in the world.³ Already dire environmental crises like California's water scarcity can only be expected to worsen. Indeed, "The odds of California suffering droughts at the far end of the scale, like the current one that began in 2012, have roughly doubled over the past century."⁴ Clearly, the logics of American exceptionalism prove delusional against the reality of rising tides.

Thankfully, the delusions of climate change denialism are receding as obfuscating myths give way to real advocacy of national climate action on the right. This development, though fairly recent, promises vital momentum if the Democratic Party can reason past its fears of relinquishing the inferior greenhouse gas regulations

² Suzanne Goldenburg, "Lost Louisiana: The Race to Reclaim Vanished Land Back from the Sea." *The Guardian*. 14 October 2014. <<http://www.theguardian.com/environment/2014/oct/14/lost-louisiana-the-race-to-reclaim-vanished-land-back-from-the-sea>>

³ C. Forbes Tompkins and Christina DeConcini, "Sea-Level Rise and Its Impact on Miami-Dade County." World Resources Institute, January 2014.

⁴ Justin Gillis, "California Drought is Made Worse by Global Warming, Scientists Say." *The New York Times*, 20 August 2015.

its members feel to be more politically secure. The parameters for a U.S. carbon tax are clear. To pass, it must be bipartisan. To be bipartisan, it must be revenue neutral and pre-empt command-and-control regulatory authority by EPA.

To fail at meeting these parameters is to invite one of three worse fates. 1) Through continued Democratic control of the presidency, the regulations of the Clean Power Plan – or what remains of them after judiciary challenges – would succeed in considerable emissions reduction, but fall short of the mitigation necessary to prevent the irreversible impacts of dangerous atmospheric CO₂ concentrations. 2) Whether by a Republican administration, court ruling, or Congressional interference, the Clean Power Plan would be either gutted or eliminated entirely, resulting in far smaller emissions reductions and undoubtedly worse climate change impacts globally. 3) Realizing the failures of carbon trading, other developed nations will institute their own carbon taxes, imposed on the U.S. as tariffs. The U.S. would be forced to match the carbon price or suffer in trade, robbing it of the opportunity for climate action leadership and addressing the crisis on its own terms.

With the path forward clear, environmental economists have found their opening to become politically engaged in carbon tax advocacy, much like climate scientists before them have engaged in communicating the need for government climate action. The scientific consensus on climate change has been settled for some time and at last shows signs of overcoming denialist obstruction in attaining broader political acceptance on the American right. With this, political demand for economic consensus is sure to follow, for which the recommendation of carbon tax-based tax reform is the ready vetted answer.

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Persons Interviewed

<i>Interviewee</i>	<i>Affiliation</i>	<i>Location and Date</i>
Carol Werner	Environmental and Energy Study Institute	Washington, D.C. 6/3/15 & 7/23/15
Evan Weber & Michael Dorsey	U.S. Climate Plan	Washington, D.C. 6/3/15
Michael Obeiter	World Resources Institute	Washington, D.C. 6/8/15
Deborah Gordon	Carnegie Endowment for International Peace	Washington, D.C. 6/10/15
Jonah Busch	Center for Global Development	Washington, D.C. 6/11/15
Eli Lehrer	R Street Institute	Washington, D.C. 6/12/15
Kate DeAngelis	Friends of the Earth	Washington, D.C. 6/23/15
Alex Bozmoski	RepublicEn	Washington, D.C. 6/26/15 & 7/1/15
James Handley	Carbon Tax Center	Washington, D.C. 6/30/15
Charles Komanoff	Carbon Tax Center	Washington, D.C. 7/1/15
Jerry Taylor	Niskanen Center	Washington, D.C. 7/2/15
Sarah Hunt	Niskanen Center	Washington, D.C. 7/8/15
Catrina Rorke	R Street Institute	Washington, D.C. 7/9/15
Joshua Karetny	Office of Senator Sheldon Whitehouse (D-RI)	Washington, D.C. 7/10/15
Roberton Williams III	Resources For the Future	Washington, D.C. 7/14/15
Ian Parry	International Monetary Fund	Washington, D.C. 7/16/15
Adele Morris	Brookings Institution	Washington, D.C. 7/16/15
Scott Stephanou	Office of Representative John Larson (D-CT)	Washington, D.C. 7/20/15

Danny Richter	Citizens' Climate Lobby	Washington, D.C. 7/21/15 & 7/24/15
Timothy Giuliani & Jason Ye	Center for Climate and Energy Solutions	Washington, D.C. 7/22/15
Aparna Mathur	American Enterprise Institute	Washington, D.C. 7/24/15
Clayton Munnings	Resources for the Future	Washington, D.C. 7/24/15
Conor Little	University College Dublin	Dublin, Ireland 6/28/13
Séan Lyons & John Curtis	Economic and Social Research Institute	Dublin, Ireland 6/28/13
Valeria Di Cosmo	Economic and Social Research Institute	Dublin, Ireland 7/2/13
George Hussey	Department of the Environment and Heritage	Dublin, Ireland 7/4/13
John FitzGerald & Susan Scott	Economic and Social Research Institute	Dublin, Ireland 7/5/13
Deirdre Joyce	University College Dublin	Dublin, Ireland 7/10/13
Rory O'Donnell & Noel Cahill	National Economic & Social Council	Dublin, Ireland 7/16/13
Dan Boyle	Former Green Party Chairman	Dublin, Ireland 7/17/13
Joseph Curtin	The Institute of International and European Affairs, Organisation for Economic Co-operation and Development, Sustainable Energy Authority of Ireland	Dublin, Ireland 7/17/13
Oisín Coghlan	Friends of the Earth Ireland	Dublin, Ireland 7/19/13
Eamon Ryan	Green Party Leader	Dublin, Ireland 7/19/13

Panels, Conferences, and Briefings

The following are events I attended. All took place in Washington, D.C.

<i>Event</i>	<i>Sponsor</i>	<i>Venue and Date</i>
“How Can States Comply with the Clean Power Plan?”	Environmental and Energy Study Institute	Rayburn House Office Building, 6/5/15
“To Tax or Not to Tax?”	American Enterprise Institute	American Enterprise Institute, 6/10/15
Citizens’ Climate Lobby International Conference	Citizens’ Climate Lobby	Omni Shoreham Hotel, 6/22/15
Pricing Carbon Dialogue	Pricing Carbon Initiative	United Nations Foundation, 6/30/15 Brookings Institution, 12/17/15
“Climate of Confusion: How Should Conservatives Think About Climate Change?”	R Street Institute, National Affairs	Rayburn House Office Building, 7/6/15
18th Annual Congressional Renewable Energy and Energy Efficiency Technology EXPO + Policy Forum	Sustainable Energy Coalition, Environmental and Energy Study Institute	Cannon House Office Building, 7/9/15
What Action Is China Taking on Climate Change?	World Resources Institute, Environmental and Energy Study Institute	Dirksen Senate Office Building, 7/14/15