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The Conservative Case for a Carbon Tax

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EXECUTIVE SUMMARY

Costly and economically inefficient command-and-control greenhouse gas regulations are firmly entrenched in law, and there is no plausible scenario in which they can be removed by conservative political force. Even were that not the case, the risks imposed by climate change are real, and a policy of ignoring those risks and hoping for the best is inconsistent with risk management practices conservatives embrace in other, non-climate contexts. 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.

Arguments that unilateral action by the United States produces little climate benefit, that a carbon tax will expand the size of government, that a carbon tax is a regressive, that adaptation and geo-engineering is preferable to emissions constraint, that economists cannot confidently design a carbon tax that does more good than harm, that the legislative process cannot deliver a carbon tax worth embracing, and that promoting a carbon tax puts conservatives on a slippery political slope are explored and found wanting.

INTRODUCTION

Conservative opposition to governmental initiatives addressing global warming has become something of a “third-rail” in Republican politics.¹ Many conservatives doubt that global warming is happening at all.² To whatever extent that warming is occurring, conservatives doubt that it is caused primarily by human activity.³ Achieving the emissions reductions projected by many climate scientists as necessary to stabilize temperature increases at 2 degrees Centigrade would require global greenhouse gas emissions to be approximately 80-95 percent below 2000 levels by 2050, net zero by 2070, and eliminated altogether by 2100.⁴ This, conservatives argue, would impose devastating economic costs.⁵ Consequently, conservatives have nothing to say about climate policy other than “no.”

Even if conservative narratives about climate change science and public policy are to some extent correct, conservatives should say “yes” to a revenue-neutral carbon tax ... so long as the tax displaces EPA regulation of greenhouse gas emissions and eliminates a host of tax preferences provided to green energy producers.⁶ If federal and state governments are going to act to reduce greenhouse gas emissions, better that they do so at the least economic cost possible. A carbon tax along the lines proposed above promises to do that by leaving the decision about where, when, and how to reduce greenhouse gas emissions to market actors (via price signals) rather than to regulators (via administrative orders). A carbon tax would also produce revenue that can be used to provide offsetting tax cuts. The implicit carbon taxes imposed by command-and-control regulation do not provide such an opportunity. Finally, a carbon tax can eliminate inefficient subsidies that distort the energy market. Those subsidies have proven difficult to remove in our present command-and-control policy world.

In the course of arguing that conservatives should make a carbon tax a centerpiece of their environmental policy agenda, this paper is organized as follows:

¹ While 54 percent of self-identified conservative Republicans *support* government regulation of CO₂ emissions and another 40 percent “support setting strict carbon dioxide emissions limits on existing coal-fired power plants,” conservative activists—who are far more influential—are more hostile to climate change policy. “Not All Republicans Think Alike about Global Warming,” Yale Project on Climate Change Communication, 2015, <http://environment.yale.edu/climate-communication/article/not-all-republicans-think-alike-about-global-warming/>.

² Only 38 percent of self-identified conservative Republicans believe that global warming is happening. Ibid.

³ Only 22 percent of conservatives agree with the proposition that human activity is the primary cause of global warming. Dan Kahan, “Climate Science Communication and the Measurement Problem,” *Advances in Political Psychology*, June 25, 2014: p. 10. Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2459057.

⁴ *Climate Change 2013: Mitigation of Climate Change*, Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Report on Climate Change (Cambridge, Mass.: Cambridge University Press, 2013), chapter 6.

⁵ James Inhofe, *The Greatest Hoax: How the Global Warming Conspiracy Threatens Your Future* (Washington: WND Books, 2012).

⁶ Eli Lehrer, “A Carbon Tax Won’t Happen Without Some Give From the Left,” *The Weekly Standard*, October 14, 2014.

- Section I maintains that the alternative to a carbon tax is not a policy of nonintervention. 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. Carbon taxes are a far less costly means of securing greenhouse gas emissions reductions than command-and-control regulation. To reject a revenue-neutral carbon tax is to implicitly embrace the regulatory status quo.
- Section II argues that, even were this not the case, conservatives should embrace some sort of greenhouse gas emissions constraints on their merits. Risks from climate change are real, and a policy of ignoring those risks and hoping for the best is inconsistent with risk management practices conservatives embrace in other, non-climate contexts.
- Section III discusses economist Adele Morris's carbon tax plan and examines its economic implications. That plan suspends EPA regulatory authority over greenhouse gas emissions, eliminates green energy tax preferences, provides for revenue neutrality by cutting corporate income tax rates, and reimburses poor households to minimize the regressive nature of the tax swap.
- Section IV considers seven conservative objections to a plan along Morris's lines; that unilateral action by the United States produces little climate benefit, that a carbon tax will expand the size of government, that a carbon tax is a regressive tax on the poor, that adaptation and geo-engineering is preferable to emissions constraint, that economists cannot confidently design a carbon tax that does more good than harm even if we could count on the legislature to leave the tax program unencumbered by political considerations, that the legislative process cannot deliver a carbon tax worth embracing, and that promoting a carbon tax puts conservatives on a slippery political slope that they will be unable to successfully navigate.
- Section V concludes with some final thoughts about the nature of the intellectual and political challenges faced by conservatives in the climate policy arena.

I. Carbon Tax or Command-and-Control?

The alternative to a carbon tax is *not* a policy of ignoring climate risks. The alternative to a carbon tax is a plethora of command-and-control regulatory interventions at every level of government and subsidies for low-carbon technologies and practices. Those interventions already impose a sort of carbon tax. Regulatory costs increase the price we pay for energy-related goods and services. But unlike a carbon tax, the increased costs are invisible to consumers.

The carbon tax delivered by command-and-control regulation is uneven, invisible, inefficient, and economically incoherent. EPA's proposed regulations for new coal-fired

power plants (under section 111(b) of the Clean Air Act⁷) dictate carbon capture and storage technology that reduces CO₂ emissions at a cost of \$88-\$131 per ton.⁸ The agency's proposal for regulating *existing* power plants ("The Clean Power Plan," issued under section 111(d) of the Clean Air Act) leaves the details up to the states, so it is unclear exactly what regulatory initiatives will follow.⁹

We can be sure, however, that they will be expensive. While the EPA does not provide aggregated cost estimates in their rulemaking,¹⁰ a study by the U.S. Chamber of Commerce puts the total regulatory price tag through 2030 at \$478 billion, annual GDP losses over that period at \$51 billion, and the cost of greenhouse gas emissions reductions under the EPA plan at \$153-\$163 per ton.¹¹ This is much higher than the agency's estimate of the social cost of carbon emissions in 2030: \$17 per ton using a 5 percent discount rate, \$55 per ton using a 3 percent discount rate, and \$85 per ton using a 2.5 percent discount rate.¹² Another study performed by NERA Economic Consulting for seven industry trade associations found that the Clean Power Plan will cost the energy sector \$366-479 billion (assuming a 5 percent discount rate) over 2017-2030. Retail electricity prices would increase by 12-17 percent.¹³

⁷ For a link to the proposed rulemaking, regulatory impact analysis, technical support documents, and various EPA fact sheets, see "2013 Proposed Carbon Pollution Standard for New Power Plants," U.S. Environmental Protection Agency, <http://www2.epa.gov/carbon-pollution-standards/2013-proposed-carbon-pollution-standard-new-power-plants>.

⁸ Shi-Ling Hsu, *The Case for a Carbon Tax: Getting Past Our Hang-Ups to Effective Climate Policy*, 2nd Edition (Washington, Island Press, 2011), p. 57. A recent analysis likewise found that carbon capture and storage does not become uneconomical until carbon emissions cost at least \$110 per ton. Richard Middleton and Adam Brandt, "Using Infrastructure Optimization to Reduce Greenhouse Gas Emissions from Oil Sands Extraction and Processing," *Environmental Science & Technology* 47:3, 2013: 1735-1744. For a good summary of the costs associated with carbon capture and storage, see Chris Nelder, "Why Carbon Capture will Never Pay Off," ZDNet, March 6, 2013, <http://www.zdnet.com/article/why-carbon-capture-and-storage-will-never-pay-off/>.

⁹ For a link to the proposed rulemaking, regulatory impact analysis, technical support documents, and various EPA fact sheets, see "Clean Power Plan Proposed Rule," U.S. Environmental Protection Agency, <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule>. For an overview of the proposed rules, see "EPA Regulation Under Clean Air Act Section 111(d): An Overview," Ayres Law Group, December 2014, <http://www.ayreslawgroup.com/policy-alerts/111d-overview-2/>.

¹⁰ EPA's estimated Option 1 cost estimate ranges from \$5.4-\$7.4 billion per year in 2020 and from \$7.3-\$8.8 billion per year in 2030. The agency's Option 2 cost estimate ranges from \$4.2-\$5.4 billion per year in 2020 and from \$4.5-\$5.5 billion per year in 2025. "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants," EPA-452/R-14-002, U.S. Environmental Protection Agency, June 2014, pp. 3-22.

¹¹ *Assessing the Impact of Potential New Carbon Regulations in the United States*, Institute for 21st Century Energy, U.S. Chamber of Commerce, 2014, http://www.energyxxi.org/sites/default/files/file-tool/Assessing_the_Impact_of_Potential_New_Carbon_Regulations_in_the_United_States.pdf. The Chamber's findings are consistent with a similar study published by NERA Economic Consulting, "Potential Energy Impacts of the EPA Proposed Clean Power Plan," October 2014, http://americaspower.org/sites/default/files/NERA_CPP%20Report_Final_Oct%202014.pdf.

¹² "Fact Sheet: Social Cost of Carbon, U.S. Environmental Protection Agency, November 2013, <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf>.

¹³ NERA Economic Consulting, "Potential Energy Impacts of the EPA Proposed Clean Power Plan," October 2014.

Although projecting compliance costs estimates far into the future for regulations that have not yet been written is fraught with uncertainty, the ambitious nature of the goals and timetables established by the EPA suggests that these higher compliance costs estimates are not implausible.

The EPA's authority to issue regulations to reduce greenhouse gas emissions is virtually unbounded and is well entrenched in the Clean Air Act.¹⁴ Reversing the EPA's finding under section 202(a) of the Clean Air Act (known as the "endangerment finding"), which *compels* the EPA to regulate greenhouse gas emissions if they "cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare," would be extremely difficult. While a reversal could come administratively from some future EPA, that reversal would surely face a legal challenge requiring the EPA to demonstrate that the reversal was supported by "substantial evidence when considered on the record as a whole."¹⁵ Given the fact that 97 percent of the papers in the scientific literature that take a position on the matter conclude that global warming is happening and that human activity is the main cause, it is doubtful that a court would allow a reversal to occur.¹⁶

Even if the endangerment finding were reversed, EPA could still regulate greenhouse gases via alternative regulatory pathways that require no such formal endangerment finding, such as when the agency is reviewing new emission sources in regions where significant deterioration of air quality is a concern and in the course of providing operating permits applicable to every major stationary source of air pollution (existing and new).¹⁷

Rewriting the Clean Air Act to remove EPA's regulatory authority over greenhouse gas emissions is the most promising route for those who oppose regulatory intervention. But that strategy would require an almost unimaginable political scenario: first, conservative control of the White House, Congress, and a filibuster-proof super-majority in the Senate; and second, a political willingness to pay the opportunity costs associated with spending large amounts of political capital on an issue with relative low political salience.¹⁸

¹⁴ Whatever the wisdom of that decision, the Supreme Court settled the matter in *Massachusetts vs EPA*, 549 U.S. 497, April 2, 2007.

¹⁵ *Coalition for Responsible Regulation vs. EPA*, U.S. Court of Appeals for the District of Columbia Circuit, No. 09-1322, June 26, 2012.

¹⁶ John Cook et al., "Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature," *Environmental Research Letters* 8:2, 2013. For a concise defense of the Cook paper in light of subsequent criticism, see "The Cook et al. (2013) 97% Consensus Result is Robust," *Skeptical Science*, May 5, 2014, <http://www.skepticalscience.com/97-percent-consensus-robust.htm>.

¹⁷ Robert Meltz, "Legal Consequences of EPA's Endangerment Finding for New Motor Vehicle Greenhouse Gas Emissions," Congressional Research Service, December 15, 2009.

¹⁸ Public opinion surveys consistently demonstrate that most Americans support government action to reduce greenhouse gas emissions, so re-writing the Clean Air Act in this manner would entail a political cost. The fact that surveys also find that global warming issues rank near the bottom of voter concerns suggests that conservatives

Senate Majority Leader Mitch McConnell threatens to use the appropriations process to defund agency promulgation and enforcement of EPA's greenhouse gas regulations. That road, however, ends in a presidential veto that Republicans lack the votes to override. Raising the ante with threats about a government shutdown would be political suicide given that 78 percent of Americans in a recent survey supported federal limitation of greenhouse gas emissions.¹⁹

Eliminating the regulations via legislation is hopeless as long as there are at least 40 votes in the Senate to sustain a filibuster. Judging by the Senate votes on climate change amendments to the Keystone XL Pipeline legislation this year, there are probably at least 50 votes for that—and likely more—at present. With the Republicans defending 24 Senate seats in the next election and the Democrats defending 10, there will not be a filibuster-proof Senate in the foreseeable future.

Lawsuits might stop the regulations, but only for a time. The agency's rulemaking is vulnerable to a number of legal challenges.²⁰ But as long as the EPA's endangerment finding stands, a successful challenge to the rules will just send the agency back to the drawing board, with new rules to follow. There's no guarantee that the new rules will be an improvement over the old rules.

Many conservatives would like to take a page out of the Affordable Care Act resistance playbook and have state legislatures prevent their regulatory agencies from filing the required state implementation plans.²¹ The idea is to require EPA, rather than the

could spend their political capital more productively elsewhere. "Deficit Reduction Declines as Policy Priority," Pew Research Center, January 27, 2014, <http://www.people-press.org/2014/01/27/deficit-reduction-declines-as-policy-priority/>.

¹⁹ "Global Warming: What Should be Done?" *New York Times*, January 29, 2015, http://www.nytimes.com/interactive/2015/01/29/us/global-warming-poll.html?_r=2.

²⁰ Various legal arguments against EPA's Clean Power Plan can be found in Laurence Tribe, testimony before the House Committee on Energy and Commerce, Subcommittee on Energy and Power, March 17, 2015, <http://docs.house.gov/meetings/IF/IF03/20150317/103073/HHRG-114-IF03-Wstate-TribeL-20150317-U1.pdf>, comments to the EPA on the proposed 111(d) rulemaking from the National Federation of Independent Business and the NFIB Small Business Legal Center, December 1, 2014, <https://s3.amazonaws.com/NFIB/AMS%20Content/Attachments/3/2-58652-NFIB%20Comment%20EPA-HQ-OAR-2013-0602%20Greenhouse%20Gases.pdf>, "EPA's Power Plant CO2 Rule 2.0: Much Ado about Nothing ... And Some Things," Element VI Consulting, undated, <http://elementviconsulting.com/epas-power-plant-co2-rule-2-0-much-ado-about-nothing-and-some-things/>, and "EPA and the CCS Oops," Element VI Consulting, undated, <http://elementviconsulting.com/epa-and-the-ccs-oops/>. For a legal defense of the Clean Power Plan, see Richard Revesz, testimony before the House Committee on Energy and Commerce, Subcommittee on Energy and Power, March 17, 2015, http://www.law.nyu.edu/sites/default/files/upload_documents/2015-03-17_Testimony_of_Richard_Revesz.pdf, and Jody Freeman and Richard Lazarus, "Is the President's Climate Plan Unconstitutional?" *Harvard Law Today*, March 18, 2015, <http://today.law.harvard.edu/is-the-presidents-climate-plan-unconstitutional/>.

²¹ Barbara Hollingsworth, "Conservative Coalition Urges State Officials to 'Fiercely Resist' EPA Rule," *CNSNews.com*, December 5, 2014, <http://www.cnsnews.com/news/article/barbara-hollingsworth/conservative-coalition-urges-state-officials-fiercely-resist-epa>.

states, to take political ownership of the economic consequences of the rulemaking.²² But even were this politically viable (how many Republican-controlled states are really prepared to surrender important regulatory decisionmaking to EPA bureaucrats?), EPA has more than enough resources and manpower to write the regulations directly. More importantly, federal implementation plans for the states would likely impose significantly higher compliance costs. According to NERA Economic Consulting, were states as a whole to leave rule-making to EPA:

- 69 percent of coal-fired power generating capacity would be retired rather than 18 percent;
- Coal-fired power generation would decline by 71 percent rather than by 29 percent;
- Natural gas prices would increase by 29 percent rather than by 2 percent; and
- Retail electricity prices would increase by 17 percent rather than by 12 percent.²³

A future Republican EPA administrator could adopt a policy of regulatory delay by extending state implementation plan deadlines, half-heartedly defending industry legal challenges, dragging out rulemaking, and slow walking every step of the process. That can work, but it would only delay the inevitable. If the GOP takes the White House in 2016, it can buy time but it cannot buy a new policy. And it only works for as long as Republicans hold the White House.

If repeal-minded Republicans were to capture the White House and hold the Congress in 2016, they might conceivably get around a Democratic filibuster via budget or reconciliations bills (which cannot be filibustered). Yet that route leads to political thermonuclear war, which is why neither party has gone down that road very often. How many times, after all, did Republicans successfully pull off that maneuver when they held the Congress and White House during the Bush administration? Plenty of noise was made about using this exact strategy to get around Democratic filibusters and open up the Arctic National Wildlife Refuge for oil and gas drilling. Nothing, however, came of it.

Even were conservatives to eliminate federal action to address climate change, states would remain free to act. Presently, there is a cap-and-trade program in California and a regional cap-and-trade program across nine Northeastern states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, Rhode Island, and Vermont). A federal regulatory retreat on greenhouse gas regulation would likely trigger further increases in regulation at the state level.

²² Peter Glaser, Carroll McGuffey, and Hahnah Williams Gaines, “EPA’s Section 111(d) Carbon Rule: What if States Just Said No?” Federalist Society White Paper, November 6, 2014.

²³ NERA Economic Consulting, Figure ES-1, p. S-6. Compliance costs would be higher because EPA lacks the authority to dictate state policies to promote low-carbon energy production or energy efficiency programs. Were states to file implementation plans, those two policy paths could be exploited to reduce greenhouse gas emissions.

Moreover, there is a plethora of piecemeal regulatory interventions to reduce greenhouse gas emissions at both the federal and state level. Renewable energy portfolio standards, green energy subsidies, and energy efficiency standards are but a few of the costly programs that are, in part, justified by concerns about global warming.

Hence, the political question is not *whether* government should act to control the emission of greenhouse gases. That question has been settled for the foreseeable future. The relevant political question is *how* government should control greenhouse gas emissions.

Harvard economist Robert Stavins explains why command-and-control regulation is, in most circumstances, the most costly way of achieving emission reductions:

Conventional approaches to regulating the environment are often referred to as “command-and-control” regulations, since they allow relatively little flexibility in the means of achieving goals. Such regulations tend to force firms to take on similar shares of the pollution-control burden, regardless of the cost. Command-and-control regulations do this by setting uniform standards for firms, the most prevalent of which are technology-based and performance-based standards. Technology-based standards specify the method, and sometimes the actual equipment, that firms must use to comply with a particular regulation. A performance standard sets a uniform control target for firms, while allowing some latitude in how this target is met.

Holding all firms to the same target can be expensive and, in some circumstances, counterproductive. While standards may effectively limit emissions of pollutants, they typically exact relatively high costs in the process, by forcing some firms to resort to unduly expensive means of controlling pollution. Because the costs of controlling emissions may vary greatly among firms, and even among sources within the same firm, the appropriate technology in one situation may not be appropriate (cost-effective) in another. Thus, control costs can vary enormously due to a firm’s production design, physical configuration, age of its assets, or other factors. One survey of eight empirical studies of air pollution control found that the ratio of actual, aggregate costs of the conventional, command-and-control approach to the aggregate costs of least-cost benchmarks ranged from 1.07 for sulfate emissions in the Los Angeles area to 22.0 for hydrocarbon emissions at all domestic DuPont plants.

Furthermore, command-and-control regulations tend to freeze the development of technologies that might otherwise result in greater levels of control. Little or no financial incentive exists for businesses to exceed

their control targets, and both technology-based and performance-based standards discourage adoption of new technologies. A business that adopts a new technology may be “rewarded” by being held to a higher standard of performance and not given the opportunity to benefit financially from its investment, except to the extent that its competitors have even more difficulty reaching the new standard.²⁴

Carbon taxes remedy those problems. Again, Stavins:

In theory, if properly designed and implemented, market-based instruments allow any desired level of pollution cleanup to be realized at the lowest overall cost to society, by providing incentives for the greatest reductions in pollution by those firms that can achieve these reductions most cheaply. Rather than equalizing pollution levels among firms (as with uniform emission standards), market-based instruments equalize the incremental amount that firms spend to reduce pollution – their marginal cost. Command-and-control approaches could – in theory – achieve this cost-effective solution, but this would require that different standards be set for each pollution source, and, consequently, that policy makers obtain detailed information about the compliance costs each firm faces. Such information is simply not available to government. By contrast, market-based instruments provide for a cost-effective allocation of the pollution control burden among sources without requiring the government to have this information.

In contrast to command-and-control regulations, market-based instruments have the potential to provide powerful incentives for companies to adopt cheaper and better pollution-control technologies. This is because with market-based instruments, particularly emission taxes, it always pays firms to clean up a bit more if a sufficiently low-cost method (technology or process) of doing so can be identified and adopted.²⁵

For these reasons, free market economists have long embraced emission taxes in lieu of direct regulation.²⁶ A carbon tax quantifies in dollar terms the risk associated with

²⁴ Robert Stavins, “Experience with Market-Based Environmental Policy Instruments,” in *Handbook of Environmental Economics: Volume 1*, Karl-Goran Maler and Jeffrey Vincent, eds. (Amsterdam: Elsevier, 2003), pp. 358-359.

²⁵ Stavins, pp. 359-360.

²⁶ Milton and Rose Friedman, *Free to Choose: A Personal Statement* (New York: Mariner Books, 1990), pp. 213-218. A more robust and contemporary argument for carbon taxes on efficiency grounds can be found in Shi-Ling Hsu, *The Case for a Carbon Tax: Getting Past Our Hang-Ups to Effective Climate Policy*, pp. 26-116. See also Kenneth Green, Steven Hayward, and Kevin Hassett, “Climate Change: Caps vs. Taxes,” *Environmental Policy Outlook* no. 2, American Enterprise Institute, June, 2007. Prominent free market economists and policy analysts

emitting greenhouse gases into the atmosphere, although how well those risks are reflected in the tax depends upon policy design and the assumptions behind that design. Climate risks, after all, are associated with costs, and those costs are not accounted for in the price for fossil fuels at present. Prices for fossil fuels (the main source of man's greenhouse gas emissions) do not reflect the total costs associated with consumption. Consumers consequently buy more fossil fuels (and generate more greenhouse gases) than would be the case if the information embodied in fossil fuel prices were accurate.²⁷ The most direct way to better inform market decisions is to correct inaccurate price signals with a tax.

Under the best of circumstances, the correct rate for a carbon tax is based on educated guesses (the best we can do at present) about:

- (1) The wealth losses that we think are most likely to follow from global warming; in addition to
- (2) The wealth losses that might follow from low-probability, high-cost catastrophic events, discounted by the chance that they will never occur; adjusted by
- (3) Our revealed preferences regarding our willingness to pay to avoid non-diversifiable risks associated with (2); discounted by
- (4) The higher value we demonstrably have for wealth today versus wealth tomorrow.

Given that the political choice today is between carbon taxation and command-and-control regulation, conservatives betray their market principles by rejecting the former and, consequently, locking in the latter.²⁸ As University of Chicago economist John Cochrane says to those who believe doing *anything* about climate change is a waste of money, "Look, if we're going to waste money, let's minimize the damage."²⁹

who support adaption of a carbon tax include the late Gary Becker (University of Chicago), John Cochrane (University of Chicago), Tyler Cowen (George Mason University), Clive Crook (*Atlantic Monthly*), Douglas Holtz-Eakin, Martin Feldstein (Harvard), Alan Greenspan, Kevin Hassett (AEI), Glenn Hubbard (Columbia), Charles Krauthammer, Art Laffer, Greg Mankiw (Harvard), Gilbert Metcalf (Tufts), Richard Posner (University of Chicago), Jonathan Rauch (Brookings), Robert Samuelson (*Washington Post*), George Shultz (Hoover Institution), Irwin Stelzer (Hudson Institute), Andrew Sullivan, and John Tierney (*New York Times*). Even Rex Tillerson, the CEO of ExxonMobil, has spoken out in favor of a carbon tax.

²⁷ For the classic statement of how we are "locked into a system of 'fouling our own nest' so long as we behave only as independent, rational, free enterprisers" when confronted with uninternalized externalities in a public commons, see Garret Hardin, "The Tragedy of the Commons," *Science* 162: 1243-1248.

²⁸ Andrew Moylan, "How to Tax Carbon," *The American Conservative*, October 2, 2013.

²⁹ John Cochrane, "Carbon Tax or Carbon Rights?" *The Grumpy Economist*, January 5, 2015, <http://johnhcochrane.blogspot.com/2015/01/carbon-tax-or-carbon-rights.html>.

II. The Conservative Case for Risk Management

The political decision to address climate change appears irrevocable. Even were that not the case, conservatives should embrace some sort of policy to respond to climate change risks, and a carbon tax, as noted above, is the best policy response. Risks from climate change are real and a policy of ignoring those risks and hoping for the best is inconsistent with risk management practices conservatives embrace in other, non-climate contexts.

There is little doubt that global warming is happening and that human activity is an important contributing factor. Even a majority of the leading climate authorities labeled as “skeptics” (e.g., MIT physicist Richard Lindzen,³⁰ University of Alabama atmospheric scientist John Christy,³¹ climatologist Judith Curry from the George Institute of Technology,³² Cato Institute climatologist Pat Michaels,³³ University of Colorado political scientist Roger Pielke, Jr.,³⁴ University of Delaware climatologist David Legates,³⁵ aerospace engineer Willie Soon from the Harvard-Smithsonian Center for Astrophysics,³⁶ and geographer Robert Balling of Arizona State University³⁷) agree with that proposition. At the Heartland Institute’s most recent International Conference on Climate Change—the largest annual gathering of scientific skeptics in the world—only a small minority of the scientists on the program disagreed with the proposition that human activity was contributing to global warming.³⁸

What divides the bulk of the “skeptics” from the mainstream of scientists is that the former believe that climate change is likely to be more modest and manageable than

³⁰ Richard Lindzen, testimony before the House of Commons Energy & Climate Change Committee, January 28, 2014, <http://www.parliamentlive.tv/Main/Player.aspx?meetingId=14741>; Justin Gillis, “Clouds’ Effect on Climate Change Is Last Bastion for Dissenters,” *New York Times*, April 30, 2012.

³¹ Richard McNider and John Christy, “Why Kerry is Flat Wrong on Climate Change,” *Wall Street Journal*, February 19, 2014.

³² Judith Curry, “The 50-50 Argument,” *Climate Etc.*, August 24, 2015, <http://judithcurry.com/2014/08/24/the-50-50-argument/>.

³³ *Addendum: Global Climate Change Impacts on the United States*, Patrick Michaels, ed., Center for the Study of Science, Cato Institute, September 2012.

³⁴ Roger Pielke, Jr., *The Climate Fix: What Scientists and Politicians Won’t Tell You About Global Warming* (New York: Basic Books, 2010).

³⁵ David Legates, Willie Soon, William Briggs, and Christopher Monckton, “Climate Consensus and ‘Misinformation’: A Rejoinder to Agnotology, Scientific Consensus, and the Teaching and Learning of Climate Change,” *Science & Education*, August 2013, and Christopher Monckton, Willie W.H. Soon, David Legates, and William Briggs, “Why Models Run Hot: Results from an Irreducibly Simple Climate Model,” *Science Bulletin* 60:1, 2015: 122-135.

³⁶ *Ibid.*

³⁷ Patrick Michaels and Robert Balling, *Climate of Extremes: Global Warming Science They Don’t Want You to Know* (Washington: Cato Institute, 2009).

³⁸ Will Oremus, “The Climate Optimists,” *Slate*, July 9, 2014. Heartland Vice President James Taylor, who organized the conference, estimates that about 80 percent of the scientists who took the podium agreed that global warming is happening and human activity was one of several causes of that warming. Personal conversation with author, November 11, 2014.

posited by the mainstream scientific community. Room for debate exists because of uncertainty about the volume of greenhouse gases we'll be generating decades hence, the volume of greenhouse gases from natural sources that will be emitted into the atmosphere in the course of future warming, how exactly the climate system operates, and how heat will be distributed throughout the climate system. As the Intergovernmental Panel on Climate Change notes in its most recent assessment regarding warming from 2050 onward:

Projections of future climate change are not like weather forecasts. It is not possible to make deterministic, definitive predictions of how climate will evolve over the next century and beyond as it is with short-term weather forecasts. It is not even possible to make projections of the frequency of occurrence of all possible outcomes in the way that it might be possible with a calibrated probabilistic medium-range weather forecast ... Nevertheless, as greenhouse gas (GHG) concentrations continue to rise, we expect to see future changes to the climate system that are greater than those already observed and attributed to human activities.³⁹

Global warming is thus a straightforward risk management exercise. The risks, however, are in many ways unknown and unquantifiable.

Both “alarmists” and “skeptics” employ this scientific uncertainty to justify their positions. The former argue that “the precautionary principle” requires action, while the latter refuse to entertain expensive regulatory costs when so much is unclear about the extent of the environmental threat.⁴⁰ The debate tends to degenerate into a normative clash of relative risk aversion and individual willingness to pay where no objectively “correct” answer can be established.

The clash of relative risk aversion with regards to global warming, however, is heavily colored by ideology. When the same issue arises in other contexts—such as what to do about various threats to national security—liberals and conservatives trade places. The former become risk tolerant while the latter become risk averse.⁴¹ Clinical studies confirm what can be readily observed; attitudes about risk and willingness to pay to

³⁹ *Climate Change 2013: The Physical Science Basis*, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Report on Climate Change (Cambridge, Mass.: Cambridge University Press, 2013), p. 1034.

⁴⁰ For an example of uncertainty being used to justify precautionary action, see Bob Litterman, “What is the Right Price for Carbon Emissions?” *Regulation* 36:2, Summer 2013: 38-43. For an example of uncertainty being offered as a reason *not* to act (at least, yet), see David Henderson, “Uncertainty Can Go Both Ways,” *Regulation* 36:2, Summer 2013: 50-51.

⁴¹ Benjamin Friedman, “The Terrible Ifs,” *Regulation* 30:4, Winter 2008: 32-40.

avoid the same are driven primarily by the partisan and ideological freight carried by the issue in question.⁴²

When we act in markets, however, we wrestle with the management of risk without ideological considerations. The key observation here is that *catastrophic* climate change—that is, low-probability, high-cost climate events such as the sudden disintegration of the Greenland or West Antarctic ice sheets, shutdown or reversal of large-scale oceanic circulation systems like the Gulf Stream, major disruptions of large-scale weather patterns, and runaway warming due to the release of immense amounts of greenhouse gases sequestered in arctic permafrost or offshore methane hydrates⁴³—is a non-diversifiable risk that threatens irreversible harm. If climate change catastrophe occurs, major wealth losses would occur across the economy.⁴⁴

The best evidence we have about how society regards non-diversifiable risk is the equity risk premium: the long-run return on equity relative to bonds. Investors demand much higher returns from stocks than from bonds because the value of the latter will not be devastated by a steep economic downturn (an uninsurable risk) whereas the value of the former will. Investors willingly pay a large opportunity cost (the returns they could have received from stocks over a sufficiently long period of time) to buy safety (the more dependable but lower returns associated with bonds).

What this tells us is that, in financial markets, non-diversifiable risk concerns us. We pay extra to avoid it. And because catastrophic climate change is a non-diversifiable risk, we should logically be willing to pay extra to avoid climate risks as well.⁴⁵ As noted by libertarian economist Edwin Dolan:

There is no objective way to prove that a minimax strategy is the best in a given situation, but equally, no reason to exclude this approach from the discussion of public policy. This should be especially true for market liberals, who, in other contexts, are quite comfortable with taking people's subjective risk preferences as they find them. In discussing financial markets, people with greater than average risk aversion are characterized as "prudent," and markets are lauded for their ability to accommodate their

⁴² See, for instance, Dan Kahan, "Ideology, Motivated Reasoning, and Cognitive Reflection: An Experimental Study," *Judgment and Decision Making* 8, 2013: 407-424; Cultural Lab Working Paper No. 107, Yale Law School, Public Law Research Paper No. 272. Available at SSRN: <http://ssrn.com/abstract=2182588>.

⁴³ For a review of catastrophic scenarios and the state of scientific knowledge about them, see *Climate Change 2013: The Physical Science Basis*, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Report on Climate Change (Cambridge, Mass.: Cambridge University Press, 2013), pp. 1114-1119.

⁴⁴ While it is often argued that regulating greenhouse gas emissions is an "insurance policy" against climate change, this is not accurate. Insurance can only be provided for diversifiable risk. Moreover, insurance is meant to make the policyholder whole by repairing the damage. This is impossible in the case of global climate change. Emissions constraint is intended to prevent the harm from happening—more akin to police or fire protection than insurance.

⁴⁵ Litterman.

*preferences. Why is it, then, that when climate policy is being discussed, people with greater than average risk aversion are dismissed as “alarmists” who do not even deserve a seat at the table?*⁴⁶

As we learn more about climate change and the threats at issue, the carbon tax can be adjusted accordingly.⁴⁷ Regulators, legislators, or even market actors could be tasked with that job.⁴⁸

One can argue about the optimal rate of the tax. The Intergovernmental Panel on Climate Change estimates that the social cost of carbon is \$12 per ton (rising 2.6 percent per year) if using a 5 percent discount rate for future costs, \$39 per ton (rising 2 percent a year) if using a 3 percent discount rate for future costs, and \$61 per ton (rising 1.6 percent a year) if using a 2.5 percent discount rate for future costs.⁴⁹ But once we account for non-diversifiable risks associated with low-probability, high-cost scenarios, the case for a policy response to global warming is compelling.⁵⁰ And that conclusion holds even if we accept the skeptics’ narrative that there are few if any signs of negative climate impacts from global warming at present. Those narratives, after all, are about known and likely climate events, not the low-probability, high-cost catastrophe scenarios discussed here.

The strongest argument against addressing low-probability, high-cost catastrophe scenarios in climate policy is that there is a budget constraint on society’s ability to address such problems. Similar exercises could be undertaken to justify expensive governmental projects to address a whole host of similar low-probability, high-cost scenarios in other contexts (e.g., nuclear or biological terrorism, the proliferation of weapons of mass destruction, the emergence of mega-viruses, asteroid collisions with the Earth). Addressing them all could lead to bankruptcy, so catastrophe scenarios in

⁴⁶ Edwin Dolan, “Science, Public Policy, and Global Warming: Rethinking the Market Liberal Position,” *Cato Journal* 26:3, Fall 2006: 463-464.

⁴⁷ Robert Pindyck, “Pricing Carbon When We Don’t Know the Right Price,” *Regulation* 36:2, Summer 2013: 43-46.

⁴⁸ Shi-Ling Hsu suggests addressing the concern that politics—not science—will dictate the level of taxation by indexing the carbon tax to a basket of seven climate indicators: global mean temperature, days of unusually high or low temperatures, extreme rainfall and draught events, sea level, ocean acidity, and hurricanes above certain intensity level. These indicators would be moving averages to smooth out fluctuations. He further suggests nesting within the tax regime a futures market for emission credits. A climate futures market would likely outperform the climate predictions offered by the integrated assessment models, impose discipline on the processing and interpretation of climate science, and help synthesize the vast, disparate, and disorganized sources of climate research. Shi-Ling Hsu, “Climate Change Regulation and Prediction Markets,” *Regulation* 37:2 Summer 2014. See also Shi-Ling Hsu, “A Prediction Market for Climate Outcomes,” *University of Colorado Law Review* 83, 2011: 179-256.

⁴⁹ Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866, May 2013, www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf.

⁵⁰ Martin Weitzman, “On Modeling and Interpreting the Economics of Catastrophic Climate Change,” *The Review of Economics and Statistics* 91:1, February 2009: 1-19; “Fat-Tailed Uncertainty in the Economics of Catastrophic Climate Change,” *Review of Environmental Economics and Policy* 5:2, Summer 2011: 275-292. See also Litterman.

multiple policy arenas compete with each other for attention. Without plausible probability estimates of the scenarios at issue and the economic fallout that might follow, we have no informed means by which to choose between competing risk management projects.⁵¹

While this observation is correct, it is of limited relevance to policymakers. First, political time horizons are notoriously short. Policymakers generally don't face the real prospect of having to choose between a large number of intellectually defensible but costly interventions to confront a plethora of low-probability, high-cost threat scenarios. Those forwarding this argument against intervention are, in effect, saying "if we can't—in theory or practice—address all problems, we should address none." That proposition fails to withstand scrutiny.

Second, our inability to accurately assess the degree of risk associated with catastrophe scenarios does not belie the fact that the threat exists. Even many libertarians have no principled objection to governmental intervention to enjoin risk.⁵² Adopting a carbon tax would reflect the fact that there is a social cost of carbon in that emissions impose risks, those risks are associated with costs, and those costs must be internalized by producers and consumers.

Third, the fewer resources we spend addressing climate risks, the more resources we will have at our disposal to address the other low-probability, high-impact risks. Ignoring climate risks altogether also threatens to make it impossible to address other low-probability, high-impact risks if any one of the catastrophic climate scenarios comes to pass.

To be sure, there is no objectively correct answer to the question of how much risk one "should" accept when considering catastrophic global warming. Risk preferences are subjective, as is willingness to pay to avoid risks. But because the atmosphere is a global commons, we should defer to the (subjective) preferences of majorities.⁵³ Those preferences are best revealed by our behavior in markets.

III. The Anatomy of a Carbon Tax

Meeting greenhouse gas emissions targets with a tax rather than with regulation produces revenue that can be used for lump sum rebates⁵⁴ or to offset tax cuts elsewhere. Suggestions have been made to use those revenues to offset cuts in the corporate income tax, the capital gains tax, personal income taxes, payroll taxes, and

⁵¹ Ibid, pp. 1-20.

⁵² Gerald Sauer, "Imposed Risk Controversies: A Critical Analysis," *Cato Journal* 2:1, Spring 1982: 231-253.

⁵³ Peter Van Doren, "Letting Environmentalists' Preferences Count," *Regulation* 26:3, Fall 2003: 32-35.

⁵⁴ This idea is being forwarded most prominently by the Citizens Climate Lobby, <https://citizensclimatelobby.org>.

sales taxes.⁵⁵ If the carbon tax is less economically harmful than the tax it displaces, a revenue neutral carbon tax is worth embracing even if we leave aside the environmental benefits.⁵⁶

Although it is unclear whether a carbon tax swap produces net benefits aside from any consideration of environmental benefits,⁵⁷ the important point is that a revenue neutral carbon tax delivers tax cuts. The implicit taxes imposed by command-and-control regulation do not. Whether those offsetting tax cuts *completely* offset the economic cost of a carbon tax is less important than the fact that offsetting tax cuts will produce significant economic benefits that command-and-control regulation cannot produce.

There is a strong intellectual argument for initially setting the carbon tax at a relatively high level and then adjusting it downward as warranted by climate feedbacks.⁵⁸ Most climate tax proposals, however, initially set the tax at a relatively low level and increase the rate in a fixed manner over time. Phasing in a carbon tax over time allows industries and consumers to gradually adjust to the tax while establishing a clear market signal that encourages investments in energy conservation and low carbon energy sources.

While there are many different ways in which one might construct a carbon tax package,⁵⁹ the center of political gravity in Washington's carbon tax policy community is occupied by economist Adele Morris of the Brookings Institution. Morris's proposal offers hope that a politically and economically attractive deal is possible for conservatives.⁶⁰ She suggests:

- A tax of \$16 per ton of carbon dioxide equivalent levied on fossil fuel production at the upstream choke point in its distribution, select industrial sources of large

⁵⁵ Carbon tax revenues would likely be used to reduce political opposition to the tax. Accordingly, it is worth noting that a recent public opinion survey finds that 60 percent of the public would support a carbon tax if the revenues were used to fund renewable energy research and development. Fifty-six percent of those surveyed would support a carbon tax if the revenues were used to provide rebate checks to taxpayers. Only 38 percent would support a carbon tax if the revenues were used to reduce the federal deficit. David Amdur, Barry Rabe, and Christopher Borick, "Public Views on a Carbon Tax Depend on the Proposed Use of Revenue," *National Surveys on Energy and Environment, Issues in Energy and Environmental Policy* 13, July 2014.

⁵⁶ Economic models often find that using carbon tax revenue to reduce corporate income taxes produce the greatest degree of economic gain. See Sebastian Rausch and John Reilly, "Carbon Tax Revenue and the Budget Deficit: A Win-Win Solution?" Report no. 228, MIT Joint Program on the Science and Policy of Global Climate Change, Massachusetts Institute of Technology, 2012; Jared Carbone, Richard Morgenstern, Robert Williams III, and Dallas Burtraw, "Deficit Reduction and Carbon Taxes: Budgetary, Economic, and Distributional Impacts," *Resources for the Future*, August, 2013; and Warwick McKibben, Adele Morris, Peter Wilcoxen, and Yiyong Cai, "Carbon Taxes and U.S. Fiscal Reform," *National Tax Journal* 68:1, March 2015: 139-156. For a review of the economic literature, see *The Carbon Pricing Handbook* (Washington: World Resources Institute, 2015), chapter 4.

⁵⁷ Lawrence Goulder, "Climate Change Policy's Interactions with the Tax System," *Energy Economics* 40, 2013: S3-S11.

⁵⁸ Litterman.

⁵⁹ For a summary of the issues associated with the construction of the tax, see *The Carbon Pricing Handbook*.

⁶⁰ Adele Morris, "The Many Benefits of a Carbon Tax," Proposal #11, The Hamilton Project, Brookings Institution, 2013.

greenhouse gas emissions, and imported fossil fuels. The tax would rise 4 percent per year after inflation through 2050. This works out to an initial tax increase of about 16 cents per gallon of gasoline and \$30 per short ton of coal.⁶¹

- Energy-intensive exporters would receive temporary border carbon adjustments so as not to disadvantage exports to countries with less ambitious climate change policies.
- 15 percent of the revenues would be reserved to compensate the households at or below 150 percent of the poverty level, completely offsetting the impact of the tax on those households.
- Over the first decade, nearly all of the remaining revenue would be used to offset a permanent reduction in the top corporate tax rate from 35 to 28 percent.
- Suspension of EPA greenhouse gas regulations under the Clean Air Act for eight years. The regulations would come back only if the tax failed to reduce emissions as projected.
- Repeal of federal energy efficiency standards and subsidies and mandates for renewable energy, biofuels, electric-powered vehicles, and nuclear power (almost \$6 billion in tax expenditures per year).

Morris calculates that her carbon tax would bring in about \$88 billion in the first year, rising to \$200 billion a year after 20 years, and provide a net deficit reduction of \$815 billion over that period. Greenhouse gas emissions, meanwhile, would be 9.2 billion metric tons lower than would otherwise be the case over that 20-year period.

Energy price increases would of course follow from even a modest carbon tax. If Morris's tax were fully passed on to consumers (which is highly unlikely⁶²), retail prices of electricity, gasoline, and home heating oil would increase by 5-6 percent in the short run, while natural gas prices would increase by 19 percent.

The tax-driven price increases that would follow from Morris's plan, however, are no greater than the "noise" that consumers normally encounter in fuel markets. The standard deviation in oil prices from quarter-to-quarter is a bit more than 15 percent.⁶³ Natural gas and electricity prices in the United States have historically been even more volatile.⁶⁴ Consumers and the economy as a whole routinely adjust to price increases that are more significant than those put on the table by a carbon tax.

⁶¹ The rule of thumb is that for every \$1 per ton of carbon tax, gasoline prices go up by one cent.

⁶² When both supply and demand are relatively inelastic (as is the case in various energy markets), a substantial portion of the energy taxes are eaten by producers and not passed on to consumers. Jeffrey Perloff and Hayley Chouinard, "Incidence of Federal and State Gasoline Taxes," *Economics Letters* 83:1, April 2004: 55-60.

⁶³ James Hamilton, "Understanding Crude Oil Prices," *The Energy Journal* 30:2, 2009: 179-206.

⁶⁴ Erin Mastrangelo, "An Analysis of Price Volatility in Natural Gas Markets," Energy Information Administration, Office of Oil and Gas, August, 2007; Lester Hadsell, Achla Marathe, and Hany Shawky, "Estimating the Volatility of Wholesale Electricity Spot Prices in the U.S.," *The Energy Journal* 25:4, 2004: 23-40.

Morris, like many, believes that the net impact of trading a corporate income tax cut for a carbon tax will produce a slight boost in GDP, employment, and wages. Even if the macroeconomic gains from the tax swap are overstated, the net cost to the economy would likely be too small to detect.

Adele Morris's plan should be acceptable to conservatives, but it could be made more attractive to the Right. In an ideal world, a carbon tax bill would also preempt state and regional greenhouse gas cap-and-trade programs. Doing so would allow the marginal costs of greenhouse gas emission reductions to remain the same everywhere in the country, maximizing the economic efficiency of the program.

Preempting state renewable energy portfolio standards should also be on the table. Those programs, which mandate the production of specified renewable energies, would be unnecessary were greenhouse gas emissions priced correctly. Moreover, revenue from the carbon tax—and the corresponding size of the offsetting tax cuts stipulated in the bill—would be larger as a result.

Congress should also use this opportunity to repeal Corporate Average Fuel Efficiency (CAFE) standards for the U.S. transportation fleet. If the price for gasoline is correct—that is, if it incorporates the full environmental costs imposed by gasoline consumption—there is no market failure remaining for government to correct via regulation. Recently, 41 prominent economists were asked whether they agreed with the statement “A tax on the carbon content of fuels would be a less expensive way to reduce carbon-dioxide emissions than would a collection of policies such as ‘corporate average fuel economy’ requirements for automobiles.” Ninety percent of the economists agreed.⁶⁵

Finally, EPA regulatory authority over greenhouse gases should be permanently repealed. If emissions are not declining in a satisfactory manner—or if the climate problem appears even more serious than is presently believed—additional emissions reductions should be secured by increasing the tax, not falling back on command-and-control regulation.

IV. Conservative Objections to Carbon Taxes

Having laid out the conservative case for a carbon tax, what remains of conservative objections? While they have varying degrees of merit, they are not persuasive..⁶⁶ The main problem is that all of the objections apply equally—and often more powerfully—to

⁶⁵ “Carbon Tax,” IGM Forum, University of Chicago Booth School of Business, December 20, 2011, http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_9Rezb430SESUA4Y.

⁶⁶ A representative summary of the conservative argument against carbon taxes can be found in an undated document published by the Institute for Energy Research titled “Carbon Taxes: Reducing Economic Growth – Achieving No Environmental Impact,” http://instituteeforenergyresearch.org/wp-content/uploads/2009/03/Carbon_Taxes_Primer.pdf.

the only political alternatives to carbon taxes (command-and-control regulation, ad hoc subsidies for clean energy, and cap-and-trade proposals).

Unilateral Action Is Pointless

Conservatives often argue that almost any conceivable U.S. program to reduce greenhouse gas emissions would have a negligible impact on global temperatures according to the general circulation models used to justify action in the first place. For instance, were we to run the emission reductions associated with the failed Waxman-Markey cap-and-trade bill through a model used by the National Center for Atmospheric Research, by one estimate, global temperatures would decline by only 9/100ths of 1 degree Fahrenheit by 2050.⁶⁷ A subsequent analysis found that even if the United States reduced greenhouse gas emissions to zero over the course of this century, global temperatures would be only 2/10ths of a degree Celsius cooler than would otherwise be the case.⁶⁸ Accordingly, there is nothing the United States can unilaterally do about warming. Politically acceptable mitigation proposals, so the argument goes, produce near-zero benefit.

Moreover, a U.S. carbon tax will simply drive industrial polluters to those countries (e.g., China and India) uninterested in greenhouse gas emissions controls. Hence, U.S. policy is, the argument goes, only capable of changing *where* greenhouse gases are emitted, not *whether* they are emitted.

While this is to some extent true, the “emissions leakage” rationale for doing nothing is overstated. Adoption of the Kyoto Protocol in Europe has likely failed to capture 5-20 percent of the emissions from 1995-2005,⁶⁹ a finding that adds weight to a recent analysis finding that a \$50 carbon tax applied to select sectors of the U.S. economy would fail to capture about 14 percent of emissions due to leakage.⁷⁰ That same study found that a broad-based carbon tax imposed on all sectors of the U.S. economy would produce a leakage rate of only about 9 percent.⁷¹

Even so, leakage caused by a global carbon tax can be addressed. Some of the revenue from a domestic carbon tax could be rebated to domestic industries most

⁶⁷ Patrick Michaels, *Climate Coup: Global Warming's Invasion of Our Government and Our Lives* (Washington: Cato Institute, 2011), p. 130.

⁶⁸ Paul “Chip” Knappenberger, “Carbon Tax: Climatically Useless,” Master Resource, December 3, 2012, <https://www.masterresource.org/carbon-tax/carbon-tax-climatically-useless/>.

⁶⁹ Terry Barker, Sudhir Junankar, Hector Pollitt, and Philip Summerton, “Carbon Leakage from Unilateral Tax Reforms in Europe, 1995-2005,” *Energy Policy* 35:12, December 2007: 6281-6292.

⁷⁰ Carolyn Fischer and Alan Fox, “Combining Rebates with Carbon Taxes: Optimal Strategies for Coping with Emissions Leakage and Tax Interactions,” Discussion Paper RFF DP 09-12, Resources for the Future, May 2009.

⁷¹ Those low estimates stem from the fact that energy expenditures account for less than 2 percent of the value of U.S. manufacturing output. “The Effects of H.R. 2454 on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries,” December 2, 2009, http://www.epa.gov/climatechange/Downloads/EPAactivities/InteragencyReport_Competitiveness-EmissionLeakage.pdf.

heavily impacted by leakage. Charges could be imposed on imported goods the equivalent of what they would have had to pay had the imported goods been produced in the United States.⁷²

The larger observation that unilateral U.S. action will have little effect on future global temperatures underscores the fact that the long, steady buildup of greenhouse gases in the atmosphere over the past century has rendered modest emissions constraint of little value. No one denies that global (as opposed to national or regional) action offers the best hope to reverse warming trends because it would control more of the emissions at issue.

U.S. action is a necessary if insufficient condition for an effective global response. While it is unclear to what extent U.S. leadership might encourage other nations to act, there are good reasons to believe that developing nations would be more likely to sign a global carbon tax agreement than a global cap-and-trade agreement, the main goal of international negotiations up until now. Last year, 74 countries and 23 subnational jurisdictions—which together represent 54 percent of total global greenhouse gas emissions—along with over 1,000 companies and investors, expressed support for a carbon tax at the UN Secretary-General's Climate Summit.⁷³ While agreeing to a national cap on emissions is to agree on a national cap on industrial activity (something developing nations are understandably reluctant to do), a carbon tax is far more attractive. As Harvard economist Greg Mankiw observes:

*All governments require revenue for public purposes. The world's nations could agree to use a carbon tax as one instrument to raise some of that revenue. No money needs to change hands across national borders. Each government could keep the revenue from its tax and use it to finance spending or whatever form of tax relief it considered best.*⁷⁴

Even if a U.S. carbon tax fails to promote global action, it will nonetheless produce non-climate benefits. A recent study by the International Monetary Fund, for instance, finds that a \$30 per ton carbon tax would produce \$37 worth of non-climate benefits from reductions in conventional pollutants and, by increasing the cost of driving, from reductions in road congestion, vehicle accident risk, and road maintenance costs.⁷⁵ A

⁷² For a brief review of the pros and cons of these two approaches, see Carolyn Fischer, Richard Morgenstern, and Nathan Richardson, "Ensuring Competitiveness Under a U.S. Carbon Tax," *Resources* 182, 2013.

⁷³ "73 Countries and Over 1,000 Businesses Speak Out in Support of a Price on Carbon," The World Bank, September 22, 2014, <http://www.worldbank.org/en/news/feature/2014/09/22/governments-businesses-support-carbon-pricing>.

⁷⁴ N. Gregory Mankiw, "Smart Taxes: An Open Invitation to Join the Pigou Club," *Eastern Economic Journal* 35, 2009: 35.

⁷⁵ Ian Parry, Chandara Veung, and Dirk Heine, "How Much Carbon Pricing is in Countries' Own Interests? The Critical Role of Co-Benefits," CESifo Working Paper Series No. 5015, International Monetary Fund, October 21, 2014, <http://ssrn.com/abstract=2512804>. See also Tammy Thompson, Sebastian Rauch, Rebecca Saari, and Noelle

carbon tax with co-benefits paired with a wealth-creating tax cut could very well be welfare enhancing even if the climate benefits are zero.

Perhaps the strongest argument for unilateral action—even in lieu of a global commitment—is that ethical considerations demand it. Simply put, one should not harm others, one should not damage the property of others, and one should leave enough for others when taking from common resources. It does not matter if others have imposed the same harm and not been held to account, that others will continue to impose identical harms without being held to account, that the one who harms gains more than is lost by the one who is harmed, or that the harmed party has imposed similar harms on others without being held to account.⁷⁶

Regardless, a carbon tax does not introduce this issue to the climate policy debate. The United States is *already* acting unilaterally to reduce greenhouse gas emissions outside of a global agreement. Our political commitment to unilateral action, as noted above, appears to be irrevocable. If the United States is going to act unilaterally, better that it do so at the least cost possible.

Growing Government

Many conservatives resist carbon taxes because they believe that increases in federal revenues will increase the size of government. But virtually every proposed carbon tax put on the political table includes offsetting tax cuts to ensure revenue neutrality. Revenue neutral carbon taxes will not increase the size of the federal treasury.

Regardless, this concern suffers from a misunderstanding of what constitutes “the size of government.” The true definition of government’s size is not how many dollars the treasury extracts from the economy. It is best measured by how many resources are reallocated as a consequence of government.⁷⁷ To the extent that carbon taxes are more efficient than command-and-control regulation at achieving the aims of greenhouse gas emission constraint, a carbon tax would serve to *decrease* the size of government relative to the status quo.

Even were that not the case, however, conservatives believe that one of the primary obligations of government is to protect private property from unwanted trespass or harm. If government must “grow” to accomplish that end, so be it.

Selin, “A Systems Approach to Evaluating the Air Quality Co-benefits of U.S. Carbon Policies,” *Nature Climate Change* 4, 2014: 917–923, <http://www.nature.com/nclimate/journal/v4/n10/full/nclimate2342.html>.

⁷⁶ These moral arguments against greenhouse gas emissions are explored from a libertarian perspective in Dolan. See also Dan Shahr, “Justice and Climate Change: Toward a Libertarian Analysis,” *The Independent Review* 14, Fall 2009: 219–237; and Jonathan Adler, “Taking Property Rights Seriously: The Case of Climate Change,” Social Philosophy & Policy Foundation, 2009.

⁷⁷ Daniel Shavero, “The New Age of Big Government,” *Regulation* 27:1, Spring 2004: 36–42.

Regressivity

Some conservatives have argued against carbon taxes because they will impact the poor more than the rich and are thus highly regressive. While possibly true (if overstated⁷⁸), this will depend on policy design.⁷⁹ Some of the revenues from a carbon tax could be used to compensate the poorest households for income losses associated with the tax, blunting the damage.⁸⁰ Regardless, this complaint ignores the fact that command-and-control regulation—the main political alternative to carbon taxes—is also highly regressive.

A variation of this argument holds that taxing the present generations to prevent harms to future generations is an intergenerational wealth transfer that redistributes wealth from the relative poor (us) to the relative rich (our children, grandchildren, great grandchildren, and so on).⁸¹ While it is likely that future generations will be wealthier than the present, it is not a certainty, particularly given the extent to which wealth has already been transferred from the future to the present in the form of deficit spending and unfunded liabilities associated with entitlement programs.⁸² Moreover, if any of the catastrophic warming scenarios were to come to pass, future generations would find themselves considerably less well off than current generations.

Mitigation Is Suboptimal

Many conservatives argue that adapting to climate change is economically and socially preferable to reducing greenhouse gas emissions.⁸³ Others argue that if global warming becomes a serious problem, using technology to remove greenhouse gases from the atmosphere, or to introduce counter-balancing atmospheric cooling (a process known as geo-engineering), will prove less costly than preemptive emissions reduction.⁸⁴ While both practices may well be attractive under certain circumstances, neither is a promising substitute for mitigation via a carbon tax.

The argument that adaption (e.g., the building of sea walls to protect coastal cities from flooding) may be the least-cost response to certain aspects of climate change is not

⁷⁸ Kevin Hassett, Aparna Mathur, and Gilbert Metalf, “The Incidence of a U.S. Carbon Tax: A Lifetime and Regional Analysis,” Working Paper 13554, National Bureau of Economic Research, 2007; Sebastian Rauch et al., “Distributional Implications of Alternative U.S. Greenhouse Gas Control Measures,” Working Paper 16053, National Bureau of Economic Research, June 2010.

⁷⁹ Shi-Ling Hsu, “The Impact of a Carbon Tax Across Income Groups,” Climate Unplugged, February 2, 2015, <http://climateunplugged.com/blogpost/?postid=241>.

⁸⁰ Shi-Ling Hsu, *The Case for a Carbon Tax*: 131-138.

⁸¹ Thomas Schelling, “Intergenerational Discounting,” *Energy Policy* 23:4-5, April-May 1995: 395-401.

⁸² Jagadeesh Gokhale, “Spending Beyond Our Means: How We Are Bankrupting Future Generations,” White Paper, Cato Institute, 2013.

⁸³ Indur Goklany, “What to Do About Climate Change,” Policy Analysis 609, Cato Institute, February 5, 2008.

⁸⁴ Geo-engineering arguments were popularized in Steven Levitt and Stephen Dubner, *SuperFreakonomics: Global Cooling, Patriotic Prostitutes, and Why Suicide Bombers Ought to Buy Life Insurance* (New York: William Morrow, 2009).

particularly controversial.⁸⁵ The costs associated with adaptation, however, should be born by those who are forcing the adaptation to occur (greenhouse gas emitters).⁸⁶ Although it is difficult to know what those costs might be, estimates for the United States range from tens to hundreds of billions of dollars per year by the middle of this century.⁸⁷ A carbon tax provides a mechanism by which greenhouse gas emitters are required to pay for the costs they impose on others.

Even so, as economist Edwin Dolan points out, “the true liberal position would insist that the actual consent of the harmed parties be secured, rather than the adaptation versus mitigation decision be made elsewhere and imposed on victims.”⁸⁸ The strong public support for greenhouse gas regulation (70 percent of registered voters in one recent poll⁸⁹) suggests that “the actual consent of the harmed parties” is a long way from being secured.

The bigger problem with adaptation, however, is that it will be inadequate to the task of responding to low-probability, high-impact catastrophe scenarios.⁹⁰ Those non-diversifiable risks are at the heart of the case for a public policy response to climate change.

Geo-engineering might also be profitably deployed in the future.⁹¹ Unfortunately, a recent two-volume report from the National Academy of Sciences finds that the technologies at issue are too immature to confidently say much about the costs, risks, and effectiveness of such undertakings.⁹² While promising geo-engineering technologies might evolve, then again, they might not. In the face of such uncertainty, hanging one’s hat on geo-engineering is to hang one’s hat on a hope and a prayer.

⁸⁵ In its most recent report, the Intergovernmental Panel on Climate Change agrees that adaptation is an important, cost-effective strategy to minimize many of the risks associated with climate change and notes that adaptation is increasingly embedded in governmental planning to positive effect. *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge, Mass.: Cambridge University Press, 2013).

⁸⁶ Paul Baer, “Adaptation: Who Pays for Whom?” in *Fairness in Adaptation to Climate Change*, W. N. Adger, J. Paavola, S. Huq, and M. J. Mace, eds. (Cambridge, Mass.: MIT Press): 131–153.

⁸⁷ Fran Sussman et al., “Climate Change Adaptation Cost in the US: What Do We Know?” *Climate Policy* 14:2, March 26, 2013, <http://www.tandfonline.com/doi/abs/10.1080/14693062.2013.777604#.VPSzmcaFbdm>.

⁸⁸ Dolan.

⁸⁹ “Not All Republicans Think Alike about Global Warming,” Yale Project on Climate Change Communication, 2015.

⁹⁰ Martin Weitzman, “On Modeling and Interpreting the Economics of Catastrophic Climate Change,” *The Review of Economics and Statistics*; “Fat-Tailed Uncertainty in the Economics of Catastrophic Climate Change,” *Review of Environmental Economics and Policy*.

⁹¹ See, for instance, T.M.L. Wigley, “A Combined Mitigation/Geoengineering Approach to Climate Stabilization,” *Science* 314:5798, October 2006: 452-454.

⁹² National Academy of Sciences, *Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration* (Washington: National Academies Press, 2015).

Pretense of Knowledge

Some conservatives take a page from Austrian economics and argue that the entire enterprise of carbon taxation is hopelessly crippled by what F.A. Hayek called the knowledge problem. Even if there are environmental externalities associated with greenhouse gas emissions, they cannot be satisfactorily quantified. There are also positive externalities associated with fossil fuel use, and they, too, cannot be satisfactorily quantified. Government interventions have unintended economic consequences, and they, too, cannot be quantified. Most important, economists cannot identify the perfectly competitive general equilibrium “end state” that is required for us to know what constitutes “economic efficiency” in the first place. The entire enterprise, conservatives argue, is so muddled with analytic uncertainty that we cannot hope to learn what the “optimal” level of climate stability might be. Accordingly, any government intervention to address greenhouse gas emissions will likely do more harm than good. Only by pure chance will analytically blinded economists improve economic efficiency.⁹³

Most economists reject this line of argument, primarily because it overstates the knowledge problem.⁹⁴ That aside, the logical implication of embracing this argument is that the government has no business providing public goods or regulations to protect human health or the environment *at all*.⁹⁵ Do conservatives really mean to argue that case? Or, as I suspect, are they merely being selective in their tolerance of analytic uncertainty in the policy process? This is an argument that conservatives would likely shy away from making in other contexts, so why are they making it here?

Government Failure

Many conservatives have argued that no matter how compelling the case for a carbon tax might be, it will be rendered intolerable by the time it emerges from the legislature. Politics, not economics, will dictate the tax rate. Exceptions and favors for politically

⁹³ Roy Cordato, *Efficiency and Externalities in an Open-Ended Universe* (New York: Kluwer Academic Publishers, 1992), available in pdf, http://mises.org/sites/default/files/Efficiency%20and%20Externalities%20in%20an%20Open-Ended%20Universe_2.pdf.

⁹⁴ For a summary of the critique, see Bryan Caplan, “Why I am Not an Austrian Economist,” unpublished manuscript, 1997, <http://econfaculty.gmu.edu/bcaplan/whyaust.htm>. Caplan extended his critique in “The Austrian Search for Realistic Foundations,” *Southern Economic Journal* 65:8, 1999: 823-838; “Probability, Common Sense, and Realism: A Reply to Hülsmann and Block,” *The Quarterly Journal of Austrian Economics* 4:2, Summer 2001: 69–86; and “Probability and the Synthetic A Priori: A Reply to Block,” *The Quarterly Journal of Austrian Economics* 6:3, Fall 2003: 77–83. For a good exchange on these issues, see “Theory and Practice in the Austrian School,” *Cato Unbound*, September, 2012, <http://www.cato-unbound.org/issues/september-2012/theory-practice-austrian-school>.

⁹⁵ Instead, many Austrians argue that the best means of dealing with air pollution issues is via tort in common law courts. See Murray Rothbard, “Law, Pollution Rights, and Air Pollution,” *Cato Journal* 2:1, Spring 1982: 55-99. For a critique of that approach, see Matt Zwolinski, “Libertarianism and Pollution,” in Benjamin Hale and Andrew Light, eds., *The Routledge Companion to Environmental Ethics* (New York: Routledge, 2015). Available at SSRN: <http://ssrn.com/abstract=2443030>; and Jeffrey Friedman, “Politics or Scholarship?” *Critical Review* 6, 1993: 429-445.

popular industries will litter the code. And despite promises to the contrary, the inefficient regulations will never die.⁹⁶

Economist Tom Tietenberg of Colby College examined the literature pertaining to the 15 major pollution tax and fee programs instituted worldwide and found that while concerns about the translating economic theory into political practice are not baseless, they are overstated.⁹⁷ “The cost savings from moving to these market-based measures are considerable, but less than would have been achieved if the final outcome were fully cost-effective. In other words while both taxes and emissions trading are fully cost-effective in principle, in practice they fall somewhat short of that ideal in part because actual designs, fashioned in the crucible of politics, deviate from the dictates of optimality.”⁹⁸ Harvard economist Robert Stavins’ review of the literature tracks Tietenberg’s. “The performance to date of market-based instruments for environmental protection provides valuable evidence for environmentalists and others that market-based instruments can achieve major cost savings while accomplishing their environmental objectives.”⁹⁹

Conservatives fear that carbon taxes will prove irresistible to politicians in search of revenue and that they will rise far beyond what is merited by the science. But conservatives have less reason to fear runaway taxation than they have to fear runaway regulation. It is more difficult to increase taxes than to increase regulation because the former imposes politically visible costs while the latter imposes politically *invisible* costs. Public opposition to tax increases—and corresponding support for increased regulation—is well known.

Conservatives are right to fear that special interests will attempt to carve out exemptions to the tax. But those rent-seeking operations could be frustrated to a large extent if the carbon tax were imposed at the point of production. It would be quite difficult for political actors to provide exemptions to favored consumers from taxes already paid upstream.

⁹⁶ See, for instance, Daniel Sutter, “Is an Optimal Carbon Tax Relevant?” *Regulation* 36:2, Summer 2013: 47-48; Jeff Miron, “Do We Need New Climate Change Guidelines?” *Orange County Register*, July 29, 2013; and Kenneth Green, “Real Politic: Carbon Tax Pessimism (Part I),” Master Resource, August 8, 2013, <https://www.masterresource.org/carbon-tax/real-politic-carbon-tax-i/> and (Part II), Master Resource, August 9, 2013, <https://www.masterresource.org/carbon-tax/real-politic-carbon-tax-ii/>.

⁹⁷ Carbon taxes were enacted in Denmark, Finland, Norway, and Sweden in the early 1990s and later in France, Iceland, India, Ireland, Japan, Mexico, Switzerland, and the United Kingdom. For an overview of those tax regimes, see *The Carbon Pricing Handbook*, Appendix A. For more detailed discussion, see *State and Trends of Carbon Pricing 2014* (Washington: The World Bank, 2014), http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2014/05/27/000456286_20140527095323/Rendred/PDF/882840AR0Carbo040Box385232B00OUO090.pdf.

⁹⁸ Tom Tietenberg, “Carbon Pricing: Lessons Derived from Experience,” draft survey paper for the International Monetary Fund, November 11, 2011, p. 22, http://personal.colby.edu/personal/t/ttieten/TT_IMFdraft11-11%20full.pdf.

⁹⁹ Stavins, p. 416.

In any event, regulatory rent seeking is an omnipresent phenomenon that is inescapable in a modern democracy. Preemptively saying “no” to policy reforms that might invite special interests to seek regulatory or tax favors is to preemptively say “no” to government. Given that conservatives are not anarchists, this objection should not deter reformers from exploring positive policy reforms.

Conservatives can support positive, well-executed policy reform and oppose poorly-executed, counterproductive policy reform at the same time. The proposition that the former is impossible to imagine and the latter is inevitable is belied by experience. If an otherwise positive policy reform agenda were to degrade in the course of moving through the legislature, conservatives can withdraw their support.

Political Slippery Slopes

Perhaps the most often heard conservative objection to a carbon tax in lieu of command-and-control regulation—at least among Washington insiders—is that the entire political exercise is doomed to failure. Environmentalists, they say, would never agree to the sort of plan envisioned here. In the course of failing, conservatives will undermine legislative opposition to naked carbon taxes and other regulatory interventions to address climate change. The cost of a failed policy offensive will put conservative politicians on a slippery political slope that they will be unable to successfully navigate.¹⁰⁰

Although slippery slope concerns should be taken seriously, they are not compelling in this case. UCLA law professor Eugene Volokh offers three criteria for determining when one might be on the sort of slippery slope envisioned here.¹⁰¹ He finds that the slope will be most slippery when:

- People think that they lack enough information to independently assess an issue;
- People don’t already feel strongly about the topic; and
- People take a pragmatic rather than ideological stance on the matter.

None of those characteristics describe congressional opponents of carbon taxes (or other consumption taxes). Nor do they describe the climate skeptics in the conservative movement. But those are the two groups that conservatives worry about losing in the advent of a failed attempt at policy reform.

As long as anti-tax conservatives can rally a filibuster in the Senate, there is little chance that this nightmare scenario will come to pass. It is hard to imagine such a total collapse in the conservative position from a failed carbon tax deal.

¹⁰⁰ See, for instance, comments by David Kreutzer of the Heritage Foundation as reported by Robert L. Bradley, Jr., in “Is the Carbon Tax Séance Over? (A Reality Check for a Trumped Up ‘Conservative’ Cause),” Master Resource, July 22, 2013, <https://www.masterresource.org/climate-policy/carbon-tax-not-conservative/>.

¹⁰¹ Eugene Volokh, “The Mechanisms of the Slippery Slope,” *Harvard Law Review* 116, 2003: 1081-1082.

If the slippery slope argument employed by conservatives is taken at face value, *any* effort at finding compromise—in any policy arena—risks undermining the conservative position. This road, however, leads to legislative paralysis. Any attempt to pass legislation requires some degree of compromise with the opposition, and compromises demand concessions. There will never be enough conservative votes to steamroll the opposition.

V. Concluding Thoughts

Conservative hostility to proposals to address global warming is often stated as a matter of principle—a defense of free markets and private property against unwarranted government regulation. But those principles would be better served by well-crafted government action..

Many conservatives who labor in the environmental arena ground their thinking in libertarian philosophy. Libertarians maintain that pollution is best thought of as a trespass on private property or as a nuisance. Government, they say, has a responsibility to either enjoin that trespass or, at the very least, redress the injuries associated with pollution in order to protect the person and property of others.¹⁰² While libertarians have a preference for resolving trespass or nuisance claims in courts of law rather than in regulatory or political bodies, they do not, in principle, have any objection to government action to restrain polluters from harming third parties. In fact, a respect for private property *demand*s it.¹⁰³ As noted by one of the founding fathers of modern libertarianism, Murray Rothbard, conservatives too often “deny that the [air pollution] problem exists, and attribute the entire agitation to leftists who want to destroy capitalism and technology on behalf of a tribal form of socialism.” He continues:

*While part of this charge may be correct, denial of the very existence of the problem is to deny science itself and to give a vital hostage to the leftist charge that defenders of capitalism “place property rights above human rights.” Moreover, a defense of air pollution does not even defend property rights; on the contrary it puts these conservatives’ stamp of approval on those industrialists who are trampling upon the property rights of the mass of citizenry.*¹⁰⁴

F.A. Hayek makes the same point:

¹⁰² See, for instance, Terry Anderson and Donald Leal, *Free Market Environmentalism*, revised edition (London: Palgrave Macmillan, 2001).

¹⁰³ The academic case for this proposition is most vigorously forwarded in a collection of essays published in the *Cato Journal* 2:1, Spring 1982.

¹⁰⁴ Murray Rothbard, *For a New Liberty: The Libertarian Manifesto*, 2nd Edition (Auburn, Ala.: Ludwig von Mises Institute, 2006), pp. 324-325.

Personally, I find that the most objectionable feature of the conservative attitude is its propensity to reject well-substantiated new knowledge because it dislikes some of the consequences which seem to follow from it—or, to put it bluntly, its obscurantism. I will not deny that scientists as much as others are given to fads and fashions and that we have much reason to be cautious in accepting the conclusions that they draw from their latest theories. But the reasons for our reluctance must themselves be rational and must be kept separate from our regret that the new theories upset our cherished beliefs....

By refusing to face the facts, the conservative only weakens his own position. Frequently the conclusions which rationalist presumption draws from new scientific insights do not at all follow from them. But only by actively taking part in the elaboration of the consequences of new discoveries do we learn whether or not they fit into our world picture and, if so, how. Should our moral beliefs really prove to be dependent on factual assumptions shown to be incorrect, it would hardly be moral to defend them by refusing to acknowledge facts.¹⁰⁵

Rothbard's and Hayek's charge that some segments of the Right are prone to deny science because they don't like the messenger (environmentalists) or the message (producers must be constrained) rings true in the climate debate.

Conservatives should remember that a carbon tax doesn't just hedge against the risks associated with temperature change. It also hedges against panic-driven government responses to catastrophic global warming that could do tremendous harm to social and economic liberty. Conservatives are risking a great deal by embracing a policy of militant denial regarding climate risks. If conservatives are found to be wrong, the political response would likely prove devastating.

Happily for conservatives, the costs associated with an effective hedge—a revenue neutral carbon tax that displaces the existing command-and-control regulatory regime—would yield a reduction in the size of government, a gain in economic efficiency, and an improvement in conservative political prospects by addressing a problem that worries an overwhelming majority of the American public.

¹⁰⁵ F.A. Hayek, "Why I am Not a Conservative," postscript to *The Constitution of Liberty* (Chicago: University of Chicago Press, 1960), p. 404.