



On the Politics of a U.S. Federal Carbon Price

Evidence from Three North American Case Studies

COMMUNICATION | EDITORIAL | INVITED CONTRIBUTION | PERSPECTIVE | REPORT | REVIEW

Timothy D. Arvan
Department of Land Economy
University of Cambridge
tda26@cam.ac.uk

ABSTRACT

To limit catastrophic damages associated with global warming in excess of 1.5°C above pre-industrial levels, the Intergovernmental Panel on Climate Change has been unambiguous in its calls for “rapid and far-reaching transitions” in land-use, energy and industrial systems. However, perceived asymmetry between the significant up-front costs and relatively abstruse, delayed benefits of climate change mitigation creates particular challenges for the political favorability of policies to reduce greenhouse gas (GHG) emissions. As a result, carbon pricing mechanisms overwhelmingly endorsed by economists across the ideological spectrum have been, with a few notable exceptions, resoundingly rejected by legislators and political constituencies. Assessment of partisan, policy design, public opinion, and interest group pressures counteracting momentum for carbon pricing is critical in the deployment of a politically durable climate change agenda. This policy-focused communication assesses these dimensions through the examination of three case studies initially discussed by Barry G. Rabe in “Can We Price Carbon?” (MIT Press, 2018)—British Columbia’s carbon tax, the Regional Greenhouse Gas Initiative in the northeast United States, and California’s cap-and-trade system for GHGs. Drawing on lessons from case studies and applying political theories to develop Rabe’s analysis, this work synthesizes guiding principles to comment on the feasibility of a U.S. federal carbon tax within the next five years.

Lost in Translation: Roadblocks to Carbon Pricing When Political Economy Decouples

Throughout the later 20th century, market mechanisms were championed to great effect in solving pressing environmental challenges. The Montreal

Protocol enjoyed success in curbing chlorofluorocarbons responsible for ozone depletion at the international level [1]; sulfur dioxide emissions trading drastically curtailed effects of acid rain from industrial pollution in the United States [2]; and durable carbon taxes in fossil fuel-dominated Nordic economies were upheld as globally applicable [3]. Such achievements of market-based policy were especially notable in light of parallel shortcomings of the Kyoto Protocol’s command-and-

control framework to achieve buy-in for legally binding emissions reduction requirements at the international level [4]. Touting the virtues of economic efficiency and potential to decouple emissions and economic growth through the market, American policymakers had warmed to the idea of carbon pricing by the early 2000s, leading to bi-partisan sentiment that a carbon price could form a pillar of U.S. national climate policy [5].

The failure of subsequent legislation delivered a shock to the American political system. Indeed, recent congressional efforts to promote a national carbon tax have stalled, with the last major effort culminating in the failed Waxman-Markey bill of the early Obama presidency, which was subject to “pork barrel” politics in the House of Representatives and was never brought to the Senate floor for debate [6]. No serious effort to rekindle momentum toward carbon pricing is expected until after the conclusion of the Trump presidency, and even then, prospects remain highly uncertain.

Perhaps these failures are attributable to consumers’ acute awareness to increased prices of high-carbon goods, or the distributional implications of environmental taxes, as seen in France’s *gilets jaunes* protests. Perhaps a lack of trust in scientific institutions, heightened partisan polarization, formidable opposition from the fossil fuel lobby, and a poisoned public discourse on environmental issues are to blame. Perhaps carbon pricing is simply a low-priority item on an already-packed national agenda, and decision-makers have instead embraced largely tokenistic alternatives such as relatively unambitious renewable portfolio standards and emissions reduction goals, hoping to appease environmentally-inclined constituents. The examination of carbon taxation in British Columbia, Canada, and American emissions trading systems in New England and California reveals the simultaneous operation of these political barriers, and the need for context-specific and creative policy techniques to overcome them. Ultimately, a U.S. federal carbon tax is found unlikely to emerge amid a diverse coalition of oppositional forces in the near term, though the potential to adopt principles from successful policy formulation and implementation provide reason for cautious optimism over longer time horizons.

The Case of British Columbia’s Carbon Tax

Kingdon (1984) proposes that the “window of opportunity” for major legislation opens conditionally upon the presence of political alignment, coherence of policy ideas, a clearly defined problem, and committed entrepreneurs to see policy through to fruition [7, 8]. Kingdon’s multiple streams model of policy adoption is particularly applicable to the circumstances in which British Columbia introduced a tax on business and household carbon emissions in 2008. While British Columbia’s extraction-oriented economy appeared an insurmountable obstacle for the province’s early climate initiatives—with even left-wing parties opposed to carbon taxes due to an anticipated backlash—developments in two critical streams repositioned the balance of feasibility.

Firstly, dynamics of the “problem stream” shifted as climate change impacts suddenly became exceptionally palpable, with warmer winters enabling the proliferation of the mountain pine beetle (*Dendroctonus ponderosae*) across millions of acres of forested wilderness [5]. Over a period of several seasons, infection of more than 300 million trees inflicted damages estimated at \$6 billion [9]. In addition to the beetles’ economic impact on regional ecosystem services, incalculable damage was done to B.C.’s intrinsic and historical place value and reputation [10]. As an acute, localized crisis, the beetle infestation captured public imagination in ways that abstract academic literature on forecasted climate impacts never could. Resulting social pressures served as authorization for British Columbia’s politicians to take bold action on climate change [5, 10].

In concurrent events affecting the “politics stream,” Premier Gordon Campbell became uniquely positioned to push an ambitious carbon tax through B.C.’s center-right controlled legislature. Facing a reelection fight in the wake of personal political scandal, Campbell understood that pushing an audacious carbon tax could offer him both a signature policy item and critical political cover [5]. Drawing on the prodigious experience of his inner circle led by Finance Minister Carole Taylor, Campbell expertly navigated

the fraught landscape of carbon tax policy design—efficiency advancing simple, robust legislation before intra- or inter-party opposition could mobilize. Campbell’s ingenuity allowed the tax to pass over left-wing opposition, which had expressed concern about the policy’s potential to burden low income populations during a time of high gas prices [11]. Growing public and business popularity of tax rebates known as “carbon dividends”—which combat regressivity by distributing all revenues in uniform annual payments back to households—has since sustained the legislation despite repeated left-wing “Axe the Tax” campaigns [11, 12].

The British Columbia case therefore points to a two-prong approach for broader applicability. It is first necessary to consider how to catalyze social momentum to act on climate change (either through direct impacts or enhanced messaging); public pressures must then be seized upon by talented policy entrepreneurs.

The Regional Greenhouse Gas Initiative as an Act of Political Mimicry

Political scientist Herbert Simon’s theory of bounded rationality suggests that decision-making by political actors on complex issues is often inhibited by temporal and cognitive limitations [13]. In this way, legislative outputs are often irreconcilable with the conclusions of rational decision theory, a favored tool of economic analysis [13]. Policymakers are well aware of such personal limitations and rarely lose sight of how an unpopular decision might impact a future reelection bid. As such, legislators often seek to establish a “consensus in the field of forces”—relying on a range of exogenous inputs to guide their personal beliefs on a particular course of action [14]. Perhaps no input is more influential than the voting behavior of trusted colleagues; when like-minded decision-makers act as a bloc on collective interests, they position themselves to reap communal benefits while avoiding political damage associated with fringe votes [15].

It is exactly the same politics of mutual interest and safety in numbers that underlie the Re-

gional Greenhouse Gas Initiative (RGGI), a cap-and-trade system shared across the interwoven economies of ten New England states, representing 7% of aggregate U.S. CO₂ emissions [16]. What began as a single-state emissions trading system in New Hampshire was transferable across jurisdictions of similar political ideology and demographic composition. In this way, RGGI states successfully captured the benefits of learning-by-doing, capitalizing on collective experience to overcome informational and administrative barriers and build strong public support for the carbon market prior to its entry into effect in 2009 [5].

RGGI capitalizes on a well-established framework of regional cooperation through joint quarterly emissions allowance auctions, while respecting participating states’ independent regulatory techniques and revenue structures [5]. Several aspects of RGGI’s policy design have been crucial in the program’s durability. First, RGGI is narrowly focused to target carbon emissions from the electricity sector; the restricted scope of the initiative (i.e. compared to British Columbia’s multi-sectoral tax structure) has produced effective mitigation results while simplifying necessary oversight and limiting broad political resistance [17]. Indeed, despite RGGI’s narrow regulation of power plants with capacities of at least 25 megawatts—fewer than 200 facilities in total—emissions from in-state electricity generation decreased by 20% between 2012 and 2018, while electricity sales remained virtually constant [16]. Additionally, by encouraging the reinvestment of revenues in energy efficiency programs and renewable energy technology development, RGGI states have demonstrated a transparent linkage between emissions trading costs and concrete benefits [18].

The resulting program is thus politically self-sustaining due to its carefully cultivated jurisdictional alliances, simple and intuitive market approach within a limited power sector context, and transparent flow of money and information into tangible climate solutions. The RGGI case may therefore serve as proof of concept for the scale-up of simple, effective market-based policies that minimize administrative costs and leverage collaborative governance to aggressively target “low-hanging fruit” emissions reductions in decarbonizing the grid. Indeed, by eschewing a

grandiose, complex policy vision, New England has quietly positioned itself at the forefront of U.S. national climate policy.

The Case of California's Cap-and-trade Program

California has, for decades, cultivated its image as a national standard-bearer on environmental issues; the state's longstanding bi-partisan ideological embrace of cap-and-trade is no exception, representing a clear indication of desire to lead on climate [19]. However, examination of the fallout from California's cap-and-trade legislation since its implementation in 2012 yields mixed conclusions, suggesting political consensus to be inconsequential in the absence of prudent policy forethought and planning [5].

Notably, the California case does not call into question the effectiveness of cap-and-trade as an emissions reduction strategy. The centerpiece of California's ambitious climate goals to reduce GHG emissions by 40% from a 1990 base year by 2030, the state's cap-and-trade system, despite periods of volatility, has achieved GHG abatement as intended [20]. The California Air Resources Board, which administers and enforces the program, notes that emissions from regulated entities are on track to decline by over 16% between 2013 and 2020.

Building on RGGI's electricity sector focus, California's program has generated a substantial revenue pool—in excess of \$1 billion per year—from the auction of emissions permits spanning power, industrial, and transportation sectors [5]. However, revenue generation is not sufficient to ensure a successful market mechanism: to be self-perpetuating, revenues must be disbursed in an open, unambiguous, and socially admissible manner. It is in this phase that California has hit a political stumbling block; failure to prearrange an acceptable revenue scheme has precipitated competing political factions and wide-ranging influence campaigns to secure funding for innumerable (worthy) causes [21]. Rather than unite stakeholders around a cooperative vision of mitigation in the likeness of RGGI, California's cap-and-trade has provoked contention and the erosion of trust among statewide environmental alliances. Specifi-

cally, dueling proposals calling for investments in clean transportation, residential energy efficiency programs, and waste management have divided and confused community and NGO partners, undermining the policy's public appeal [21].

In this capacity, California's eagerness to enact legislation without specifying future implications has, in retrospect, proven rash and potentially counterproductive. As an alternative, Governor Jerry Brown has instead scored easy political victories penning relatively vague, symbolic environmental commitments—including recent legislation to convert California entirely to renewable energy by 2045 [5]. This case underscores the need for a defined vision of policy performance to complement initial adoptability if substantive change is to endure.

Will We See a U.S. Federal Carbon Price in Five Years?

Monumental challenges ingrained in the modern American political system will confront any meaningful near-term federal carbon pricing effort. As postulated by Kraft, congress has the necessary institutional capacity to study modern environmental problems but grossly lacks the cooperative mindset to prioritize of long-term public well-being over short term partisan political gains [15]. Such polarization reflects deep divisions in public opinion on climate change; fewer than 70% of Americans agree there is solid evidence of warming temperatures [22]. These conditions make the probability of durable federal carbon pricing legislation in the next five years extremely unlikely, however, successful carbon prices have often emerged from seemingly disadvantageous circumstances. Lessons from British Columbia, RGGI, and California dictate a series of prerequisites for any federal carbon price to overcome present barriers:

1. Climate change mitigation must be framed in the national discourse as a salient policy priority with impending consequences for individual and social welfare; a public sense of urgency must motivate and lend credence to policy entrepreneurs. Iterative communication of

scientific evidence between authorities, including the IPCC, and local decision-makers must lend legitimacy and political license to bold policy responses [23]. Meanwhile, civil society interventions must remain effective in amplifying public demand for ambitious action.

2. While no particular model of partisanship appears particularly inclined to succeed on carbon pricing, mutual trust among coalition members must enforce a joint commitment to a given pricing vision. Broad stakeholder engagement capable of incorporating local knowledge into policy planning processes is critical to facilitating long-term durability [5]. By contrast, undercutting of allies leads to the fragmentation of support and increases vulnerability to unstable policy “pendulum swings” from changing administrations [24].
3. Effective pricing mechanisms, whether carbon taxation, cap-and-trade, or otherwise must transparently showcase the application of revenues to achieve concrete social benefits (i.e., carbon dividends, energy efficiency programs, climate change adaptation, infrastructure). The federal government must advance a clear and decisive vision for distribution of revenues, thereby undermining the politically unpalatable idea of taxation [5].

Serious pursuit of a national carbon price undoubtedly poses an existential threat to a small subset of political careers, however, failure to engage this issue will relinquish the foremost policy mechanism to combat an existential threat that confronts society collectively. While five years may prove too short a timeline to dissolve ingrained oppositional interests, successful models inform the notion that carbon pricing is a worthwhile policy priority within the realm of long-term feasibility in the United States.

© 2020 The Author. Published by the Cambridge University Science & Policy Exchange under the terms of the Creative Commons Attribution License <http://creativecommons.org/licenses/by/4.0/>, which permits unrestricted use, provided the original author and source are credited.

References

- [1] E. R. DeSombre, “The experience of the Montreal protocol: Particularly remarkable, and remarkably particular,” *UCLA Journal of Environmental Law and Policy*, vol. 19, p. 49, 2000.
- [2] S. R. Benkovic and J. Kruger, “Us sulfur dioxide emissions trading program: results and further applications,” *Water, Air, and Soil Pollution*, vol. 130, no. 1-4, pp. 241–246, 2001.
- [3] P. Cleary, *Trillion Dollar Baby: How Tiny Norway Beat the Oil Giants and Won a Lasting Fortune*. Black Inc., 2016.
- [4] S. Barrett and R. Stavins, “Increasing participation and compliance in international climate change agreements,” *International Environmental Agreements*, vol. 3, no. 4, pp. 349–376, 2003.
- [5] B. G. Rabe, *Can we price carbon?* MIT Press, 2018.
- [6] D. R. Turin, “The challenges of climate change policy: Explaining the failure of cap and trade in the united states with a multiple-streams framework,” *Inquiries Journal*, vol. 4, no. 06, 2012.
- [7] J. W. Kingdon and E. Stano, *Agendas, alternatives, and public policies*. Little, Brown Boston, 1984, vol. 45.
- [8] D. Béland and M. Howlett, “The role and impact of the multiple-streams approach in comparative policy analysis,” 2016.
- [9] A. Walton, J. Hughes, M. Eng, A. Fall, T. Shore, B. Riel, and P. Hall, *Provincial-Level Projection of the Current Mountain Pine Beetle Outbreak: Update of the infestation projection based on the 2007 Provincial Aerial Overview of Forest Health and revisions to the “Model” (BCMPB.v5)*. British Columbia Ministry of Forest, Victoria, May 2008. [Online]. Available: <https://www.for.gov.bc.ca/ftp/hre/external/!publish/web/bcmpb/year5/BCMPB.v5.BeetleProjection.Update.pdf>
- [10] S. Sodero, “Greenhouse gas emissions, pine beetles and humans: The ecologically mediated development of british columbia’s car-

