TOWARD A POPULIST POLITICAL ECONOMY OF CLIMATE DISRUPTION

BY

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Most academic thinking about the political economy of climate disruption focuses on what one might call the political economy of compromise. This idea, grounded in public choice theory, posits that one must craft policy proposals sufficiently appealing to special interests to pass. This idea underlies academic support for emissions trading based on grandfathering, as emissions trading often appeals to industry (because it is inexpensive and flexible) and environmentalists (because it limits emissions).

This Article advances an alternative vision of political economy—a populist political economy. Political candidates and their advisors might craft a climate policy to attract active support from people and entities not normally involved in climate policy debates, because it offers significant non-climate benefits chosen to generate votes in elections. This idea might be valuable in the United States, where ideological opposition to climate policy has defeated the political economy of compromise nationally but populism is on the rise.

This Article will focus on the idea of a carbon tax with revenue devoted to popular priorities (as opposed to environmental protection or deficit reduction), to illustrate the concept's potential. It will discuss how to identify priorities sufficiently appealing to voters to motivate displacement of recalcitrant politicians.

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I. INTRODUCTION

Analysis of the political economy of climate disruption[1] usually relies on the assumption that climate policy must offer advantages to the special interests that oppose it in order to sufficiently mollify those interests and the politicians that serve them to make headway.[2] Call this the political economy of compromise. The political economy of compromise has been at the center of U.S. and global climate policy.[3] It helps explain governments' heavy reliance on emissions trading based on grandfathering, which offers cost savings to polluters and a market-based approach to politicians skeptical of government solutions to problems.[4] And academic writing focuses overwhelmingly on this model's implications.[5]

Yet, many of the most successful climate policies around the world are not climate policies based on the political economy of compromise. Indeed, they are not climate policies at all, at least in the sense of being created only to achieve greenhouse gas abatement. The most successful policies that achieve greenhouse gas abatement serve many interests besides those of environmentalists concerned only about climate disruption and sometimes achieve vast reductions in greenhouse gas emissions inadvertently. Examples include the French nuclear program,[6] the German feed-in tariff,[7]

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1 I use the term "climate disruption" in lieu of the more conventional terms, "global warming" and "climate change," because it more fully describes the problem it refers to. The term "climate change" is accurate, but vapid, failing to say anything about the change's nature. The term "global warming" accurately describes a central finding of the climate literature, that mean surface temperatures are rising. But it says nothing about why that warming is a concern. The term climate disruption briefly captures the concerns in scientific reports about this warming causing droughts, exacerbating violent weather events, causing sea rise, and otherwise disrupting the environment we once knew.

2 *See, e.g.*, Nathaniel O. Keohane et al., *The Choice of Regulatory Instruments in Environmental Policy*, 22 HARV. ENVTL. L. REV. 313, 319–20 (1998) (describing demand side theories of regulation as positing that special interest groups demand regulation).

3 *See* discussion *infra* Part II.

4 *See* Keohane et al., *supra* note 2, at 317, 348 (explaining that grandfathered permits are a market-based instrument, dominant in U.S. environmental policy, which is cost effective and minimizes the burden placed on industry).

5 *See, e.g.*, *id.* at 313–14 (analyzing "market-based" or "economic incentive" instruments in environmental policy); James K. Boyce, *The Challenge of Forging Sustainable Climate Policy*, SCHOLARS STRATEGY NETWORK, https://perma.cc/KGL8-NQUK (last visited Apr. 13, 2019) (discussing proposals to placate conservatives by devoting carbon tax revenue to reduce debt or "distortionary" taxes to placate industry by giving away permits).

6 *See infra* notes 78–79 and accompanying text.

the Brazilian biofuels program,[8] the British dash to gas,[9] and the global phase-out of ozone depleting chemicals.[10] These programs offer examples of major departures from the status quo that have greatly reduced greenhouse gas emissions and often moved countries far down the path toward phasing out fossil fuels in a significant economic sector. Collectively, they delivered far more greenhouse gas emission reductions than the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto Protocol).[11] Yet, none of them came into being in order to address climate disruption.

These policies point toward a different conception of climate's political economy: the idea that one can get support for ambitious climate policies by serving varied interests, including non-climate interests. In other words, there are two ways of solving the political economy problem that special interest opposition presents. One involves mollifying the special interests. The second involves offering benefits to other constituencies besides a single-issue environmental constituency. Call this the political economy of multiple benefits.

For the federal government of the United States at least, the political economy of compromise may have exhausted its potential. This Article explains why this may be so and explores the potential of policies designed to take advantage of the political economy of multiple benefits to secure enactment. In particular, this Article suggests the possibility of designing policies to take advantage of what one might call a populist political economy, i.e., a type of multiple benefits political economy that offers sufficiently salient benefits to the population at large as to make many of them active supporters of effective climate policy. To concretize this idea of a populist political economy it explores the possibility of a populist carbon tax, which might have the potential to stimulate active support for climate policy from new constituencies, thereby shifting the ideological climate that has slowed and sometimes defeated ambitious federal action on this issue.[12]

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7 *See infra* notes 86–88 and accompanying text.

8 *See infra* notes 80–82 and accompanying text.

9 *See infra* notes 83–84 and accompanying text.

10 *See About Montreal Protocol*, UNITED NATIONS ENV'T PROGRAMME, https://perma.cc/KN6Q-KVXX (last visited Apr. 13, 2019); OZONE SECRETARIAT, UNITED NATIONS ENVIRONMENT PROGRAMME, HANDBOOK FOR THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER V, 3 (12th ed. 2018), https://perma.cc/HL98-W2JJ.

11 U.N. Framework Convention on Climate Change, *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, U.N. Doc. FCCC/CP/1997/L.7/Add.1 (Dec. 10, 1997). *Compare* Duncan Clark, *Carbon Cuts by Developed Countries Cancelled Out by Imported Goods*, GUARDIAN (Apr. 25, 2011), https://perma.cc/9BYP-BJRS (explaining that the Kyoto Protocol resulted in minimal overall reductions), *with* ALEXANDRA-MARIA BOSCE & CAROLA GEGENBAUER, UK'S DASH FOR GAS: IMPLICATIONS FOR THE ROLE OF NATURAL GAS IN EUROPEAN POWER GENERATION 8 (2017), https://perma.cc/M5N8-QUZG (showing a 35% decline in electricity sector greenhouse gas emissions in the United Kingdom because of a shift from coal to natural gas).

12 *Cf.* Coral Davenport, *Obama to Propose $10-a-Barrel Fee on Oil*, N.Y. TIMES (Feb. 4, 2016), https://perma.cc/WV8F-D56N (noting that bipartisan interests in infrastructure supported President Obama's proposed oil tax to fund low-emission infrastructure spending).

In proposing a multiple benefits model, I do not mean to suggest that the two primary models (compromise and multiple benefits) are necessarily mutually exclusive. Indeed, this Article aims to open up space to think about the tradeoffs between these models and possible combinations.

This Article also builds on some broader themes. It relies heavily on public choice theory, which sees government as serving special interests.[13] Yet in developing its political economy models this Article takes into account public choice theory's limitations, which the public choice literature itself recognizes.[14] In particular, in developing these models this Article considers ideology's role in forming policy, which has become a particularly important subject for U.S. policy.[15] Thus, while this Article starts with public choice, it does not end there.

This Article begins with an explanation of the political economy of the compromise model. It reveals that this model relies heavily on an assumption about the pragmatic character of environmental politics and that this assumption may no longer hold true in the United States. Because of this, the compromise model may no longer prove useful as a sole model for designing effective national policies.

The second Part develops the concept of a multiple benefits political economy using many of the examples already mentioned. It also maps this multiple benefits model's relationship to public choice theory, showing that some benefits may buy support from concentrated interests, which play a starring role in public choice theory, but some may offer advantages to the broader polity.

The third Part develops the concept of a populist political economy largely through discussion of a populist carbon tax. It develops the concept of populism and describes the role policy proposals may play in making a populist campaign successful. It uses the populist carbon tax example to show how the concept of a populist climate policy changes the questions we ask of a policy proposal. And the carbon tax proposal helps explain how we might answer the questions made relevant by a concept of populist political economy.

II. THE POLITICAL ECONOMY OF COMPROMISE

The political economy of compromise is well entrenched in environmental law and economics. The key insight involves recognizing that emissions trading might prove useful in securing polluters' cooperation. If

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13 *See* MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 142, 147 (1971).

14 *See, e.g.*, Dorothy A. Brown, *The Invisibility Factor: The Limits of Public Choice Theory and Public Institutions*, 74 WASH. U. L.Q. 179, 180 (1996) ("[B]ecause public choice theory underestimates the ability of the majority to influence the political process, it is of limited use as a predictive tool.").

15 *See, e.g.*, Keohane et al., *supra* note 2, at 321–22, 337–38 (identifying the role ideology plays in legislative voting and the need for a departure from an ideological position as a cost that may affect a legislature's support for regulation).

the government gives polluters allowances for free, they receive a valuable asset and they gain cost reductions from trading's flexibility.[16]

By contrast, if a government auctions off pollution allowances or imposes a pollution tax, polluters have to pay for each ton of pollution emitted.[17] These approaches convert a right to pollute free of charge into a privilege that polluters must pay for.[18] Hence, polluters often oppose auctioning of allowances and pollution taxes, but may support emissions trading based on grandfathering.[19]

The history of emissions trading seems to prove the model's value. In the run-up to the 1990 Amendments to the Clean Air Act[20] (CAA), environmentalists and government officials secured industry cooperation in crafting an acid rain program by offering the flexibility of emissions trading.[21] This cooperation produced a very successful program that delivered significant environmental benefits at a fraction of the predicted cost, with minimal litigation and strife.[22]

Buoyed by this success, the United States became an advocate of global environmental benefit trading[23] as an approach to addressing climate disruption. Its support for trading played a key role in making trading a centerpiece of the international climate disruption regime.[24]

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16 *See id.* at 347–48 (explaining why grandfathered emissions trading reduces cost for regulated firms).

17 *Id.* at 348 (Pollution taxes and permit auctions require firms to pay "not only their private costs of compliance, but also the costs of tax payments to the government for any residual emissions").

18 *See* Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1341 (1985) (contrasting a BAT system where existing polluter permits are free to a trading system based on auctioning where polluters must pay for them).

19 Gert Tinggaard Svendsen, *U.S. Interest Groups Prefer Emission Trading: A New Perspective*, 101 PUB. CHOICE 109, 115 (1999) (arguing that industry is expected to oppose taxes because they raise production cost and prefer grandfathering because it "imparts no initial costs and works as a barrier to entry" for new companies).

20 Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (codified as amended in scattered sections of 29 and 42 U.S.C.).

21 David Bullock, *Political Costs and the Challenge of Tradable Environmental Allowance Markets*, 29 GEO. ENVTL. L. REV. 609, 636–39 (2017) (discussing the compromise acid rain trading program).

22 David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control/Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 318 (1998) (pointing out that the acid rain program has "worked . . . well" and produced lower costs than anticipated).

23 I use the term "environmental benefit" trading, rather than the more conventional "emissions" trading, because the Kyoto Protocol provisions on trading contemplate credits for activities that do not reduce emissions, but instead sequester carbon. *See* David M. Driesen, *Free Lunch or Cheap Fix?: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1, 32–33 (1998) (explaining that the term emissions trading is inaccurate with respect to the Kyoto Protocol, because it contemplates trading of credits for carbon sequestration, which is not an emission reduction).

24 *See* David M. Driesen, *Sustainable Development and Market Liberalism's Shotgun Wedding: Emissions Trading Under the Kyoto Protocol*, 83 INDIANA L. J. 21, 33–34 (2008) (describing how U.S. advocacy of broad environmental benefit trading led to no less than three trading mechanisms in the Kyoto Protocol).

When the European Union began to design an emissions trading scheme as the centerpiece of its climate strategy,[25] U.S. advisors taught the European Commission the valuable political economy lessons it had learned. It might be more efficient to sell allowances, but doing so would ignite special interest opposition.[26] Accordingly, even though the E.U. Commission appreciated the value of auctioning allowances, the first two phases of its scheme relied overwhelming on grandfathering (giving allowances away for free).[27]

The compromise model relies in part on public choice theory. Public choice theory sees legislation as predominantly an effort to serve special interests, rather than to pursue the public good.[28] Many of the theory's proponents see organized groups seeking to protect the environment as special interests.[29] Hence, this political compromise model basically applies a public choice model to the problem of instrument choice in environmental law.

Yet, recent events suggest some limits to the political compromise model's ability to predict special interest responses to emissions trading. When the United States Environmental Protection Agency (EPA) developed a rule to regulate greenhouse gas emissions from existing power plants in 2015, it authorized emissions trading as a technique and did not propose to sell any allowances.[30] But the electric power industry did not cooperate. Instead, much of it lobbied vehemently to weaken EPA's Clean Power Plan (as this rule is called) and pursued several lawsuits, including one filed even before EPA finalized its rule.[31]

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25 *EU Emissions Trading System (EU ETS)*, EUR. COMMISSION, https://perma.cc/3AXK-8THX (last visited Apr. 13, 2019) ("The EU emissions trading system . . . is a cornerstone of the EU's policy to combat climate change . . . .").

26 *See* JONAS DREGER, THE EUROPEAN COMMISSION'S ENERGY AND CLIMATE POLICY: A CLIMATE FOR EXPERTISE? 53 (2014) (stating that an expert advised the European Commission that auctioning allowances would excite special interest opposition).

27 *See* Cameron Hepburn et al., *Auctioning of EU ETS Phase II Allowances: How and Why?*, 6 CLIMATE POL'Y 137, 137 (2006) (explaining that the European Parliament limited auctioning to 5% in phase I and 10% in phase II).

28 *See* David M. Driesen, *Purposeless Construction*, 48 WAKE FOREST L. REV. 97, 119 (2013) (noting that public choice proponents "argue that statutes frequently represent bargains serving special interests"); Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 544–48 (1983) (arguing that legislation often reflects special interest bargains).

29 *See, e.g.*, Todd J. Zywicki, *Baptists?: The Political Economy of Environmental Interest Groups*, 53 CASE W. RES. L. REV. 315, 335 (2002) (claiming that environmental groups are best analyzed under a public choice model assuming that they act out of self-interest); Keohane et al., *supra* note 2, at 326 (referring to firms, trade associations, and "environmental advocacy organizations" as "interest groups").

30 *See* Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,667 (Oct. 23, 2015) (noting that the plan's standards can be met through emissions trading).

31 *See In re* Murray Energy Corp. v. State of W. Va., 788 F.3d 330, 333–34 (D.C. Cir. 2015) (denying a petition to review the proposed but not finalized rule on power plant emissions); W. Va. v. Envtl. Prot. Agency, 136 S. Ct. 1000, 1000 (2016) (temporarily staying EPA's regulations for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units); *see also* Lisa Friedman, *Trump Wants to Repeal Obama's Climate Plan. The Next Fight: Its Replacement*, N.Y. TIMES (Sept. 28, 2017), https://perma.cc/4ACN-3XHN (noting

Analyzing the theory underlying the prediction that trading will secure polluter cooperation will help us understand this discrepancy in polluters' responses to trading proposals. Public choice theory suggests that regulated polluters will resist efforts to curtail emissions unless those efforts benefit them. Hence, the prediction that polluters will support trading relies on the idea that trading will benefit polluters.

But how precisely does emissions trading benefit polluters? The idea that emissions trading benefits polluters relies on an assumption that polluters will have to reduce emissions one way or another, but they can influence the choice of mechanisms. This was a realistic assumption at the time of the 1990 CAA amendments.[32] Environmental protection had bipartisan support in Congress, and while polluters could sometimes stall action for a time (and had done so with respect to addressing acid rain for quite a while), environmentalists enjoyed sufficient political support to eventually win these battles.[33] So, the political economy of compromise's predictions rely on the assumption that politicians are ultimately willing to address serious environmental problems with significant measures.

Let us call this assumption that politicians will ultimately do something significant to address serious environmental problems the "Pragmatic Politicians Assumption." That is, in a country with fairly pragmatic politics, one can safely assume that sooner or later the political system will address a serious environmental problem in a meaningful way. Thus, the polluters considering their stance on the pending 1990 CAA Amendments may well have understood themselves as having no option of wholly or even largely avoiding regulation. Instead, the question became what form of regulation would they prefer. In other words, emissions trading with grandfathering delivered a benefit to polluters because of the relevant baseline. Absent their acceptance of trading, the polluters would likely get costly "command-and-control regulation." Thus, a compromise between environmentalists, in which environmentalists agreed to a new largely untried mechanism and in return industry agreed to meet a fairly ambitious target made sense. This compromise delivers a benefit to polluters, because trading provides a benefit as compared to the baseline of "command-and-control" regulation.

So, why would the whole utility industry not agree to the Clean Power Plan? The answer, very likely, is that the baseline had shifted. At the beginning of the Obama Administration, the Office of Information and Regulatory Affairs in the Office of Management and Budget, EPA's overseer, seemed unwilling to accept a Clean Power Plan mandating meaningful reductions. Accordingly, EPA might only demand those reductions that come from heat rate improvements at power plants, which would be pretty small beer. Recognizing this, the Natural Resources Defense Council

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that industry leaders fought to kill the Clean Power Plan but advocate a replacement because they fear the possibility of tougher regulation in the future).

32 *See generally* Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (codified as amended in scattered sections of 29 and 42 U.S.C.).

33 *See* Bullock, *supra* note 21, at 637–38 (explaining that before agreement to the acid rain trading program a "decade of debate" had led only to an "impasse").

(NRDC), an environmental group, proposed an emissions trading program for existing power plants.[34] In other words, environmentalists, often seen as trading opponents, originated the trading proposal. This proposal offers flexibility that helps justify deployment of natural gas, renewable energy, and end-use efficiency measures as cost effective means of achieving a more ambitious target than heat rate improvements at power plants could achieve.[35]

From much of the industry's standpoint, however, it made little sense to support this trading proposal. If they nixed the trading proposal, the alternative was not likely to be strict traditional regulation. Instead, the likely alternative would be close to no regulation at all. And, of course, under Trump, meaningful regulation is even less likely than it was under Obama. Hence, since the baseline was (and is) almost no regulation, emissions trading offers much of the industry no benefit as measured from the relevant baseline.

Economists have sometimes argued that regulation exists because firms may prefer regulation to no regulation.[36] They explain that regulation may raise prices for consumers but facilitate firms' extraction of rent from these same consumers, at least when barriers to entry exist.[37] Regulation of utility emissions may allow some utilities to profit at the expense of others, which might explain why some of the industry supports the Clean Power Plan, but much of it does not.[38] The literature, however, provides little empirical support for the hypothesis that firms regularly support reasonably stringent regulation because of opportunities to extract rents.[39]

The political economy of compromise depends on background assumptions about politics (and sometimes law) embedded in the implicit baseline. Hence, background political considerations influence the outcome public choice theory will produce as applied to a given constellation of actors.

The analysis provided to this point embraces public choice theory as the basis for the compromise model. This discussion, however, notes that the positions of the special interests vary with baseline political conditions.

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34 DANIEL A. LASHOF ET AL., NAT. RES. DEF. COUNCIL, CLOSING THE POWER PLANT CARBON POLLUTION LOOPHOLE: SMART WAYS THE CLEAN AIR ACT CAN CLEAN UP AMERICA'S BIGGEST CLIMATE POLLUTERS 47 (2013), https://perma.cc/5H9E-YV6C (advocating an approach allowing "emission rate averaging and crediting").

35 *Id.* at 75–76.

36 *See* Keohane et al., *supra* note 2, at 348–49 (discussing theories for why firms may prefer some regulation to no regulation, including that certain regulations "can actually augment firms' profits through the generation of rents and the erection of entry barriers").

37 *Id.* at 349–51 (discussing why private firms have a strong preference for command-and-control standards).

38 *See* ENVTL. DEF. FUND, LIST OF SUPPORTERS OF THE CLEAN POWER PLAN IN COURT 2–3 (2018), https://perma.cc/3KQ6-8XRA (listing power companies that support the Clean Power Plan and noting that they provide nearly 10% of the nation's electricity).

39 *See* Keohane et al., *supra* note 2, at 350 (finding "no conclusive empirical" support for the idea that rent seeking creates demand for regulation from regulated firms, due to a lack of research into firms' actual demand for regulation).

This incorporation of a political baseline suggests that public choice theory has its limits. Indeed, the more careful proponents of public choice theory do not claim that every single public choice reflects only the desires of special interests.[40] If public choice explained everything, it would be impossible to explain environmental law, as Richard Revesz has noted.[41] So, sometimes the views of politicians or even of the electorate at large matter.

This Article further develops the compromise model by taking into account the role of ideology.[42] It uses the term "ideology" in a capacious sense. It does not use the term "ideology" solely to refer to the role of rigid, complete belief systems powerfully influencing only ideologues. Instead, this Article merely assumes that politicians (and other policy makers) have ideas about what constitutes desirable policy and that these ideas can influence what they are willing to do. (Note the close relationship between the words "idea" and "ideology.") Sometimes, these ideas may provide a comprehensive and quite rigid world view and make their adherents into ideologues, but at other times the ideology politicians subscribe to may be just a set of beliefs that influence their views about desirable policy but do not amount to a rigid comprehensive system.

Ideology in this broad sense helps explain how the political economy of compromise made international environmental benefit trading central to the Kyoto Protocol. It became central largely because the United States demanded its use as a precondition to its acceptance of the Kyoto Protocol.[43] One likely reason that the Clinton Administration became so adamant about getting international environmental benefit trading into the agreement involves its ideological utility. By the time of the Kyoto Protocol's negotiation, many Republicans in Congress evinced a great deal of skepticism toward government regulation.[44] Yet, some of them showed support for "market mechanisms," which seem compatible with a world-view favoring free markets over heavy-handed government regulation.[45]

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40 *See* William N. Eskridge, Jr., *Politics Without Romance: Implications of Public Choice Theory for Statutory Interpretation*, 74 VA. L. REV. 275, 286 (1988) (noting that public choice theorists describe their findings about special interest influence in terms of probabilities); Richard A. Posner, *Statutory Interpretation—in the Classroom and in the Courtroom*, 50 U. CHI. L. REV. 800, 809 (1983) (describing interest groups as "determin[ing] or at least *influenc[ing]*" legislator's preferences (emphasis added)); Richard D. Tollison, *Public Choice and Legislation*, 74 VA. L. REV. 339, 351 (1988) (noting that the public choice literature recognizes that legislators sometimes rely on personal value judgments).

41 *See* Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553, 571 (2001) (finding environmental law's existence difficult to square with public choice theory).

42 *Cf.* Keohane et al., *supra* note 2, at 321–22 (noting that political scientists often take ideology into account in modeling legislative outcomes).

43 *See* Driesen, *supra* note 24, at 33–35 (2008) (discussing the United States government's successful effort to make international emissions trading a part of the Kyoto Protocol).

44 *See* Newt Gingrich, *A Contract with America* 1–2 (1994), https://perma.cc/5AHN-CYGJ (explaining that House Republicans have signed a "contract" seeking to "roll back government regulations" while suggesting that many of them "strangle small business").

45 *See* Thomas O. McGarity, *Avoiding Gridlock Through Unilateral Executive Action: The Obama Administration's Clean Power Plan*, 7 WAKE FOREST J. L. & POL'Y 141, 143 (2017) (noting that "in 2009, prospects for comprehensive climate disruption legislation" appeared so good that

Global environmental benefit trading might facilitate an ideological compromise, providing a middle ground between traditional government regulation and allowing market actors to pollute with no restraint at all. Thus, the Clinton Administration, which hoped to get the Kyoto Protocol ratified, may have demanded environmental benefit trading, because it saw broad trading as a key to making the Kyoto Protocol acceptable to Congress.

Reliance on a market-based mechanism almost succeeded in bridging ideological divides in Congress, even though the Senate never did ratify the Kyoto Protocol.[46] In 2009, the Waxman-Markey bill,[47] based largely on environmental benefit trading, passed the House and seemed likely to pass the Senate.[48] This bill also contained specific design features designed to realize the political economy of compromise.[49] For example, industry concerns about high future prices may make it difficult to put trading policies in place, especially policies tightening a cap to the levels needed to avoid dangerous global climate disruption—the stated goal of the international climate disruption regime. To address these concerns and make adoption more likely, American economists who work in a country where the political economy problems are very serious, have proposed a price cap.[50] A price cap provides that the government will sell more allowances if prices reach a predetermined level.[51] A price cap provides a compromise position designed to secure industry support, but it weakens the trading mechanism, reducing the price signal for long-term investment and potentially increasing emissions.[52] It is based on the political

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"the electric power industry assumed that Congress would pass a bill"); *cf.* Bullock, *supra* note 21, at 636 (arguing that political support for market-based policies generally helps secure enactment of emissions trading programs); *see also* Erin McPike, *Van Hollen Moving Climate Change With 2016 Leverage*, CNN, https://perma.cc/2ZPL-NKP4 (last updated Feb. 23, 2015) (noting that some Republicans had supported cap-and-trade legislation addressing climate disruption in 2009).

46 S. 98, 105th Cong. (1997) ("[I]t is the sense of the Senate that . . . the United States should not be a signatory to any protocol to . . . the United Nations Framework Convention on Climate Change[.]").

47 American Clean Energy and Security Act, H.R. 2454, 111th Cong. (2009).

48 Scott Schang & Teresa Chan, *Federal Greenhouse Gas Control Options from an Enforcement Perspective*, 2 SAN DIEGO J. CLIMATE & ENERGY L. 87, 94, 96 (2010) (explaining that the Waxman-Markey bill, which "establishe[d] a cap-and-trade system" to reduce "greenhouse gas emissions[,]" passed the House in 2009, but finding the passage of cap and trade legislation in the Senate unlikely after the 2010 midterm election); David M. Driesen, *Capping Carbon*, 40 ENVTL. L. 1, 3–4 (2010) (suggesting that, in early 2010, passage of a cap and trade bill was "very likely").

49 H.R. 2454, *supra* note 47, § 1 (proposing amendments to the CAA to include a cap and trade system but including compromises like offsets, a strategic reserve, and banking and borrowing).

50 Warwick J. McKibbin & Peter J. Wilcoxen, *The Role of Economics in Climate Change Policy*, 16 J. ECON. PERSP., Spring 2002, at 107, 119–22 (proposing a price cap to address political problems with taxes and emissions trading).

51 *Id.* at 120 (explaining that a system that allows government to sell short-term permits at a fixed price puts a cap on the cost of abatement under a trading program).

52 *See* Robert N. Stavins, *A Meaningful U.S. Cap-and-Trade System to Address Climate Change*, 32 HARV. ENVTL. L. REV. 293, 298–99 (2008) (highlighting the importance of

compromise model. The Waxman-Markey bill contained a price cap and other measures consistent with the political economy of compromise.[53] This bill, however, did not pass the Senate and never became law.[54]

Press accounts offer several competing explanations for this failure, some of them implicating broader theories of political economy and some of them more idiosyncratic. On the idiosyncratic side, President Obama did not make this a top priority and did not lobby that effectively for it.[55] A related idiosyncratic story recounts that Majority Leader Harry Reid gave priority to immigration reform.[56] This angered an important congressional player and led to a key defection.[57] These stories suggest that no theory of political economy can completely explain politics. Yet, a competing explanation sounds in public choice theory.[58] The planned division of allowances alienated the oil companies, who felt that they were getting a worse deal than the electric utilities.[59]

"commitments to long-run emissions targets" to providing adequate incentives for investments in technologies generating little or no emissions).

53 *See* Tom Mounteer, *Comprehensive Federal Legislation to Regulate Greenhouse Gas Emissions*, 39 Envtl. L. Rep. (Envtl. L. Inst.) 11,068, 11,082–84 (2009) (describing the "strategic reserve" in the Waxman-Markey bill, which functions as a price cap, and other measures to contain costs and add flexibility to address industry concerns about excessive cost); *see also* Kenneth R. Richards & Stephanie Hayes Richards, *U.S. Senate Climate Change Bills in the 100th Congress: Learning by Doing*, 33 ENVIRONS 1, 24–29 (2009) (discussing price caps in the Senate bills, which did not pass).

54 Alex Ritchie, *Scattered and Dissonant: The Clean Air Act, Greenhouse Gases, and Implications for the Oil and Gas Industry*, 43 ENVTL. L. 461, 504 (2013) (mentioning the failure of variations on the Waxman-Markey bill to pass the Senate).

55 Guri Bang et al., *California's Cap-and-Trade Program*, *in* THE EVOLUTION OF CARBON MARKETS: DESIGN AND DIFFUSION 67, 72 (Jørgen Wettestad & Lars H. Gulbrandsen eds., 2018) (noting analysts' contention that President Obama did not lead a sufficient effort to secure legislators' support for his climate policy); Amanda Reilly & Kevin Bogardus, *7 Years Later, Failed Waxman-Markey Bill Still Makes Waves*, E&E NEWS (June 27, 2016), https://perma.cc/ERR4-K86V (discussing health care law as a priority for President Obama, slowing the momentum of the Senate's version of the Waxman-Markey bill); Darren Samuelsohn, *Climate Bill Blame Game Begins*, POLITICO (July 22, 2010), https://perma.cc/X9K5-SWSJ (stating that many agree Obama did not "do enough to make the climate bill a big enough priority," citing Eric Pooley of the Environmental Defense Fund who said "the absence of direct, intense presidential leadership doomed this process").

56 McGarity, *supra* note 45, at 148 (noting that Harry Reid announced in April of 2010 "that the Senate would take up immigration reform ahead of climate legislation").

57 *Id.* at 148–49 (noting that Reid's announcement angered Senator Lindsey Graham, a Republican supporter of climate legislation, and contributed to his decision to defect).

58 *See* Reilly & Bogardus, *supra* note 55 (noting that many close to the legislation blamed the Senate bill's failure on concessions to special interests); Bryan Walsh, *Why the Climate Bill Died*, TIME (July 26, 2010), https://perma.cc/F7NU-6USM (citing a theory that the cap and trade bills failed in the Senate because they were "essentially giveaways to the biggest corporate carbon polluters").

59 *See* Anne C. Mulkern, *Hints at More Drilling Fall Short of Wooing Oil Company Support for Cap and Trade*, E&E NEWS (Oct. 19, 2009), https://perma.cc/P378-KAA6 (mentioning oil companies that viewed the bill as inequitable, partly because electric utilities got more free permits than the oil companies); Jesse D. Jenkins, *Political Economy Constraints on Carbon Pricing Policies: What are the Implications for Economic Efficiency, Environmental Efficacy, and Climate Policy Design?*, 69 ENERGY POL'Y 467, 470 (2014) (naming other industries that opposed the bill).

This public choice explanation calls attention to another possible application of the political economy of compromise. Emissions trading based on grandfathering allows the government to give away a valuable asset—emission allowances—for free. It can use these handouts to buy off potential opponents.[60] Indeed, many observers assumed that the Waxman-Markey bill had become inordinately complex precisely because it aimed to buy off special interests.[61]

Thus, the political model of compromise, offers two ways of explaining environmental policy. It can focus on a policy as offering a workable compromise between competing ideologies, or it can bring a public choice explanation to bear on a fairly simple world in which the key players are assumed to be environmentalists and regulated firms.

But notice that these two modes of explanation—the special interest and the ideological—cannot be kept entirely separate. We have seen that the preferences of special interest players depend in important ways on the baseline political conditions. These baseline conditions, in turn, depend in part on politicians' ideology and even the electorate. Furthermore, one can assume that reasonably pragmatic politicians will likely adopt a compromise favored by the most relevant special interests. It is not so clear that wholly ideological politicians will adopt special interest compromises.[62] So, the political economy of compromise depends heavily on the pragmatic politician assumption.

The pragmatic politician assumption, however, does not capture the character of American politics as it has evolved since the failure of Waxman-Markey very well.[63] In those years, the Tea Party movement pushed the Republican Party to a position of adamant opposition to environmental regulation, including market-based regulation.[64] Whereas in 2008, Republican presidential candidate John McCain acknowledged that humans cause climate disruption and supported policies to address it, today no prominent national Republican politician embraces these positions.[65] And President

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60 *See* Robert Stavins, *The Wonderful Politics of Cap-and-Trade: A Closer Look at Waxman-Markey*, ROBERTSTAVINSBLOG.ORG (May 27, 2009), https://perma.cc/9FES-E6G4 (explaining that allowance allocation builds political support for a cap-and-trade program).

61 *Cf. id.* (discussing the "give-away of allowances" and the suggestion that 75% to 80% of the allowances were given away to private industry).

62 *See, e.g.*, McGarity, *supra* note 45, at 149 (noting that when "[c]limate disruption became a partisan issue" for the Republicans, they would no longer support legislation addressing it "no matter how much supporters of a climate disruption bill were willing to concede to the various industries").

63 *See id.* at 205 (suggesting the Republican party is "ideologically committed" to opposing new environmental standards).

64 *Id.* at 142, 153–55 (showing that the Tea Party, with funding from special interests, has "driven" the Republican party "to a position of adamant opposition to any environmental regulation of any kind").

65 *See id.* at 192–93 (noting that "[v]ery few current Republican members of Congress openly favor mandatory" reductions in greenhouse gas emissions); ANDREW DRESSLER, INTRODUCTION TO MODERN CLIMATE CHANGE 227 (2016) (noting that John McCain, Mitt Romney, and Newt Gingrich acknowledged climate disruption risks and advocated greenhouse gas emission reductions prior to 2009).

Trump has famously rejected climate disruption as a hoax, announced the withdrawal of the United States from the Paris Agreement, and begun to weaken existing regulations.[66] Accordingly, nobody expects a bill like Waxman-Markey to pass absent another significant political shift. Hence, the assumption that a proposal seeking to take advantage of the political economy of compromise has a decent chance of passage seems outdated, at least for the national government of the United States.

III. THE POLITICAL ECONOMY OF MULTIPLE BENEFITS

The political economy of compromise reflects a fairly narrow view of the world. It suggests thinking of climate disruption as existing in isolation from other social problems and concerns. From that perspective, the principle protagonists are environmentalists focused on slowing climate disruption and the industries emitting greenhouse gases. And the main goal involves securing enough support from those directly concerned about climate policy to get something done.

But climate experts have long recognized that policies addressing climate disruption deliver co-benefits of various kinds.[67] The existence of co-benefits suggests the possibility of attracting additional support for climate policies from people motivated by these co-benefits.[68] This additional support may, in principle, make it possible to move forward even when the political economy of compromise does not permit adequate progress.

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66 Vicki Arroyo, *State and Local Leadership in the Trumpocene*, 11 CARBON & CLIMATE L. REV. 303, 305 (2017) (noting Trump's announcement of withdrawal of the US from the Paris Agreement); Michael C. Blumm & Mary Christina Wood, "*No Ordinary Lawsuit": Climate Change, Due Process, and the Public Trust Doctrine*, 67 AM. U. L. REV. 1, 4–5 (2017) (noting that Trump characterized climate disruption as "a hoax perpetrated by the Chinese" and announced the U.S. withdrawal from the Paris Agreement); Coral Davenport, *U.S. Issues Plan to Weaken Fuel Economy Rules*, N.Y. TIMES, Aug. 3, 2018, at A1 (discussing Trump's plan to repeal an Obama-era rule that would "require[] automakers to nearly double the fuel economy of passenger vehicles . . . [and] build cleaner and more fuel-efficient cars"); David M. Driesen, *The Changing Climate for US Law: Extreme Weather Events*, 11 CARBON & CLIMATE L. REV. 191, 192 (2017) (noting Trump's intention to review the main Obama-era climate regulations, corporate average fuel economy (CAFE) standards and the Clean Power Plan); Robert L. Glicksman, *The Fate of the Clean Power Plan in the Trump Era*, 11 CARBON & CLIMATE L. REV. 292, 292 (2017) (describing the Trump Administration's effort to derail the Clean Power Plan, a key regulation of greenhouse gas emissions); Michael Mehling, *A New Direction for US Climate Policy: Assessing the First 100 Days of Donald Trump's Presidency*, 11 CARBON & CLIMATE L. REV. 3, 5–6 (2017) (noting that Trump expressed "doubts about the very existence of climate change" and describing deregulatory actions).

67 *See, e.g.*, Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. CHI. L. REV. 1763, 1806–09 (2002) (describing the ancillary benefits to urban air quality from reducing greenhouse gas emissions and to forest ecosystems from efforts to enhance carbon sinks).

68 Jan P. Mayrhofer & Joyeeta Gupta, *The Science and Politics of Co-Benefits in Climate Policy*, 57 ENVT'L SCI. & POL'Y, 22, 27 (2016) (explaining that when climate policies deliver co-benefits, they can increase their attractiveness).

Most obviously, many of the actions that reduce climate disruption provide additional *environmental* benefits.[69] So, for example, switching from coal-fired power to natural gas, nuclear, or renewable energy not only reduces greenhouse gas emissions; it also reduces regional and local air pollution.[70] China's increased willingness to take action on climate disruption may reflect increasing alarm about very unhealthful air quality in China's major cities, which would decline if China moves from coal-fired power toward cleaner forms of energy.[71] And China's investments over a long period to increase energy efficiency, although perhaps aimed at saving money and addressing local air pollution, have reduced its greenhouse gas emissions relative to the trajectory without such measures.[72]

Co-benefits, however, can go beyond providing multiple environmental benefits.[73] In India, for example, solar power has permitted the spread of electrification to remote villages that traditional transmission lines cannot reach.[74] So, policies supporting solar energy in rural areas simultaneously support economic development and environmental objectives. More broadly, Germany, a leading polity in efforts to address climate disruption, apparently sees climate policy as providing an opportunity to advance economic development, making the country a leader in developing and exporting new technologies needed to cope with climate disruption.[75] In fact, opinion research indicates that the co-benefits of addressing climate disruption can increase both the motivation and activity of those who believe that climate disruption is real and increase the willingness of climate skeptics to countenance action on the issue.[76]

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69 *Id.* at 24–25 (discussing the types of environmental co-benefits that climate policy provides).

70 *See id.* at 24 (noting that climate policies yield local air quality benefits)*; see also* Rascoff & Revesz, *supra* note 67, at 1808–09 (noting that burning cleaner fuels to reduce carbon dioxide emissions also reduces ozone, nitrogen oxide, and sulfur dioxide pollution).

71 *See* Andrew Shepherd, *The Perilous Hunt for APEC Blue: The Difficulties of Implementing Effective Environmental Regulation in China*, 6 ARIZ. J. ENVTL. L. & POL'Y 595, 599–600 (2016) (explaining that China supplies 70% its energy from coal, causing carbon dioxide emissions and contributing to unhealthy air quality levels accounting for roughly 17% of all deaths in China).

72 *See* Nan Zhou et al., *Overview of Current Energy-Efficiency Policies in China*, 38 ENERGY POL'Y 6,439, 6,439, 6,441–42 (2010) (explaining that energy efficiency policy in China from 1980 to 2001 provided carbon dioxide reduction benefits and freed up investment capital).

73 *See* Jenkins, *supra* note 59, at 475 (advocating considering local health benefits, energy security, and employment in choosing climate policies to better appeal to consumers).

74 *See* Paul Curnow et al., *Financing Renewable Energy Projects in Asia: Barriers and Solutions*, 1 RENEWABLE ENERGY L. & POL'Y REV. 101, 108 (2010) (noting that India has a long history of support for renewable energy in both "grid-connected and off-grid rural electrification program[s]").

75 *See* Anna Milena Jurca, Note, *The Energiewende: Germany's Transition to an Economy Fueled by Renewables*, 27 GEO. INT'L ENVTL. L. REV. 141, 149, 162 (2014) (discussing Germany's support of renewable energy for export and its belief that economic growth is compatible with decreased energy consumption).

76 *See* Paul G. Bain et al., *Co-benefits of Addressing Climate Change Can Motivate Action Around the World*, NATURE CLIMATE CHANGE (Sept. 28, 2015) (finding that motivations to act on climate were clearly related to co-benefits of increased economic development and building a more caring and moral community); Mayrhofer & Gupta, *supra* note 68, at 27 ("[T]he

If one looks around the world at the most successful climate policies—defined as policies that have driven sectors of a society to much lower greenhouse gas emissions than the norm—one finds policies that did not aim to reduce greenhouse gas emissions at all, but aimed at other objectives and often served nonenvironmental interests. Although most developed countries use a lot of electricity generated by burning fossil fuel and therefore generate a lot of greenhouse gas emissions,[77] there is one advanced country with extremely low emissions in the utility sector. That country is France. It achieved this miracle by building a fleet of nuclear power plants.[78] And the motivations for this decision had nothing to do with climate disruption. Indeed, the buildout predated robust scientific awareness of the climate issue. France instead built nuclear power plants both as an assertion of national pride (under De Gaulle) and as a way of promoting energy security.[79]

Similarly, Brazil enjoys much lower transport emissions than many large countries. It achieved this by developing a robust biofuels industry.[80] Although these actions benefited the climate, other concerns motivated the policies supporting biofuels. In particular, Brazil sought local economic development and escape from dependence on expensive foreign oil through

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recognition of co-benefits privately motivates players to adopt stricter [greenhouse gas] controls, thus playing an important part in overcoming the collective action problem of building a global climate regime.").

77 *See Global Greenhouse Gas Emissions Data*, U.S. ENVTL. PROTECTION AGENCY, https://perma.cc/AV7U-4ENX (last visited Apr. 13, 2019); *see also Renewables Successfully Driving Down Carbon Emissions in Europe*, EUR. ENV'T AGENCY, https://perma.cc/VXD6-56US (last updated Jan. 13, 2017) ("Coal, oil, gas and other fossil fuels still make up around three quarters of final energy consumption [in Europe and] . . . are the main cause of climate change . . . .").

78 *See Nuclear Power in France*, WORLD NUCLEAR ASS'N, https://perma.cc/H532-TDFD (last updated Nov. 2018) ("France gets 75% of its energy from nuclear power . . . .").

79 *See id.* (citing energy security needs as the major justification for the nuclear program); Adam Leach, *The French Evolution: Government Calls Time on Nuclear Dominance*, POWER TECH. (Sept. 9, 2014), https://perma.cc/P7DM-SQ7X (discussing the nuclear program as a response to the oil crisis of the 1970s); Hisayuki Nishi, Comparative National Policy on Nuclear Power: The United States, Sweden, France, and Japan (June 27, 1991) (unpublished M.A. thesis, University of Southern California) (on file with Proquest, UMI # EP63839) (showing that national independence and political power motivated continuation of the program after the oil crisis subsided); *cf.* France: A Study of French Nuclear Policy After Fukushima, K=1 PROJECT (July 17, 2012), https://perma.cc/K7MS-GTRM (noting that, beginning in 1999, France added lower greenhouse gas emissions to its rationale for the program, long after the plants were built); Michelle Vo, *Nuclear Power in France Today*, FR. & NUCLEAR POWER, https://perma.cc/TR5K-DW4X (last visited Apr. 13, 2019) (indicating that France's current government aims to substitute renewables for nuclear energy in the future).

80 *See IEA Report: Can Biofuels Mitigate the Emissions from Oil Used for Transport?*, PLATTS ENERGY ECONOMIST, February 2005, 2005 WLNR 25260734, at 2–3 (claiming that biofuels provide a 20% to 50% reduction in greenhouse gas emissions); *see also* Anselm Eisentraut & Michael Waldron, *Brazil's Biofuel Sector: What Future?*, OECD OBSERVER, Q4 2011, at 36, 36–37, https://perma.cc/F9VP-KBGK (noting that advanced biofuels can reduce transport emissions by 70%–100%).

the nurturing of a Brazilian biofuels industry.[81] The policy also benefitted Brazilian sugar producers.[82]

Another advanced polity, the United Kingdom, lowered its electric utility emissions substantially in a short period of time by rapidly moving from coal to natural gas.[83] This "dash for gas" aimed to achieve Margaret Thatcher's goals of reducing the government's role in the economy and breaking the unions.[84] These benefits (from the perspective of conservatives) helped get a very pro-climate policy enacted in the face of opposition from some of the most important special interests slowing or defeating climate policies, coal miner unions and owners of coal-fired power plants.[85] At the same time, the closure of coal mines delivered payouts to purveyors of natural gas and increased efficiency.

These stories are old ones and predate a robust appreciation of the human role in causing climate disruption. But countries have strengthened policies adopted for non-climate reasons once the polity recognizes the seriousness of climate disruption. Thus, Germany adopted an agricultural policy benefitting farmers by offering them a constant and fairly high price for the electricity they could feed in to the grid when they burned agricultural waste.[86] This policy, called a feed-in tariff, evolved into a general support program for renewable energy, motivated in part by the economic development opportunities renewable energy offers.[87] Germany recognized

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81 *See* Todd Benson, *More Brazilian Drivers Turn to Ethanol*, N.Y. TIMES (Oct. 20, 2004), https://perma.cc/BY49-UGPZ (discussing the desire for energy security and the benefits for Brazilian agriculture).

82 *See id.* (pointing out that sugar mills received millions of dollars of subsidies to support these programs); Yuna Han, *Cash Crop: Brazil's Biofuel Leadership*, HARV. INT'L REV., Summer 2008, at 9, 9 (discussing the program's benefits for Brazilian agriculture).

83 *See* BOSCE & GEGENBAUER, *supra* note 11, at 8 (showing a 35% decline in electricity sector greenhouse gas emissions because of a shift from coal to natural gas).

84 *See id.* at 9 (identifying Margaret Thatcher's promotion of privatization of the electricity sector as a cause of the dash for gas); Richard Seymour, *A Short History of Privatisation in the UK: 1979-2012*, GUARDIAN (Mar. 29, 2012), https://perma.cc/8E9M-XPB2 (noting Thatcher's policy of privatization in the United Kingdom included a proposal to "dismember" unions, which it did).

85 *See* Tejvan Pettinger, *The Decline of the UK Coal Industry*, ECON. HELP (Dec. 11, 2016), https://perma.cc/YAW5-WU22 (discussing the political clash between Thatcher's Administration and coal unions and their subsequent decline in power).

86 *See* WILSON HAMBRICK ET AL., THE GREEN POLITICAL FOUND., BEYOND BIOFUELS: RENEWABLE ENERGY OPPORTUNITIES FOR US FARMERS: A TRANSATLANTIC COMPARISON ON A GROWING BUSINESS FOR AGRICULTURE 8, 30 (2010), https://perma.cc/8576-YZ9N (discussing the German agricultural lobby's support for strong feed-in tariffs and other support for renewable energy); Energiewende Team, *How Winning Over Rural Constituents Changed the Political Discussions on Renewables in Germany*, ENERGY TRANSITION (Nov. 18, 2014), https://perma.cc/SH8P-T2AC (discussing the benefits of feed in tariffs for farmers that engage in biomass energy production).

87 Patrick Bayer & Johannes Urpelainen, *It is All About Political Incentives: Democracy and the Renewable Feed-in Tariff*, 78 J. POL. 603, 603–04 (2016) (explaining that feed-in tariffs have spread around the world partly because they incentivize decentralized power production, which benefits rural communities).

the climate benefits of a feed-in tariff and consciously strengthened it as a tool to further reduce greenhouse gas emissions.[88]

One can easily multiply these examples. For example, energy efficiency programs, not just in China but also around the world, reduce the cost of providing energy services and realize local pollution reduction benefits. They can add convenience to daily life, for example, by encouraging installation of switches that turn on lights when people enter the room and turn them off when they leave. They also reduce greenhouse gas emissions.

Similarly, renewable energy enjoys political support because it provides local economic benefits, increases energy security, and reduces local air pollution.[89] It also reduces greenhouse gas emissions by displacing fossil fuel generation.[90]

Thus, policies sometimes aim to achieve non-climate benefits, but deliver enormous reductions in greenhouse gas emissions.[91] And most, if not all, policies aimed at reducing greenhouse gas emissions deliver other benefits.

All of this suggests the possibility of a political economy of multiple benefits—that we may adopt not only climate policies that buy off opponents, but also policies that attract enough beneficiaries to allow progress even when opponents can defeat proposals enjoying support only from climate-focused environmentalists. Once we see this point, we might start thinking more creatively about how to design policies to deliver co-benefits that may entice more people to actively support effective climate policy.

This idea of a political economy of multiple benefits becomes especially important when the Pragmatic Politicians Assumption does not hold. In that case, one cannot be sure that politicians will support climate policies just because the regulated industry has concluded that it would rather cooperate to shape effective policies that it can live with. For that matter, polluters may not agree to reasonable cost-effective measures if they believe that politicians will not ultimately address important environmental issues. In such a case, one may need to take advantage of the political economy of multiple benefits to attract sufficient support to overcome political opposition.

Recognition of the political economy of multiple benefits leads to the idea that governments and academics might consciously create policies

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88 Cornelia Ohl & Marcus Eichhorn, *The Mismatch Between Regional Spatial Planning for Wind Power Development in Germany and National Eligibility Criteria for Feed-in Tariffs – A Case Study in West Saxony*, 27 LAND USE POL'Y 243, 244 (2010) (discussing increases in the feed-in tariff as a program designed to meet climate policy goals).

89 *See* Barry G. Rabe, *The Aversion to Direct Cost Imposition: Selecting Climate Policy Tools in the United States*, 23 GOVERNANCE 583, 588–89 (2010) (explaining that policy entrepreneurs have secured adoption of renewable energy policies by emphasizing their local economic development potential and their contribution to energy independence).

90 *Renewables Successfully Driving Down Carbon Emissions in Europe*, *supra* note 77.

91 *See, e.g.*, *Protecting the Ozone Layer While Also Preventing Climate Change*, EUR. ENV'T AGENCY, https://perma.cc/E73P-E8F9 (noting that policies reducing ozone depletion also reduced greenhouse gas emissions) (last updated Jan. 17, 2017).

designed to attract supporters not normally engaged in climate policy. Something like this already goes on among environmental advocates. Environmentalists sometimes make their policy proposals' social benefits into selling points.[92] But explicit recognition of the political economy of multiple benefits may lead to some fresh thinking about policy design.

All of this does not mean that proposals taking advantage of the political economy of multiple benefits provide some magic elixir to escape problems. Indeed, the existence of co-benefits can sometimes skew policies and make them less effective. A good example of this skewing comes from biofuels.

Most policy makers see biofuels as an important tool in reducing greenhouse gas emissions in transportation.[93] But initially, politicians became excited about the potential of biofuels to provide income to agribusiness (farmers, in the language of politicians), a potential co-benefit for a special interest.[94] For that reason, many U.S. policies favor corn-based ethanol, which benefits agribusiness growing a well-established crop.[95] Lifecycle analysis, however, reveals that corn-based ethanol does not reduce net greenhouse gas emissions.[96] Those producing ethanol generate additional greenhouse emissions as they make and transport ethanol, which can exceed the emissions saved by burning fuel containing ethanol.[97]

Nor by suggesting a political economy of co-benefits do I mean to deny the existence of the opposite of co-benefits: risk/risk problems. For example, many countries reject nuclear power in spite of its efficacy in reducing greenhouse gas emissions and providing baseload power, because their citizens fear accidents and have concerns about nuclear waste disposal. Thus, Germany, for example, has shut down nuclear power plants, which provide large amounts of carbon-free baseload power, even as that country seeks to realize ambitious goals for reducing greenhouse gas emissions.[98]

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92 *See, e.g.*, VIGNESH GOWRISHANKAR & AMANDA LEVIN, NAT. RES. DEF. COUNCIL, AMERICA'S CLEAN ENERGY FRONTIER: THE PATHWAY TO A SAFER CLIMATE FUTURE 6 (2017), https://perma.cc/K4M6-58PR (citing reduced electricity bills, stress on the electricity grid, air pollution, water pollution, and land use impacts as "co-benefits" of a move to much cleaner energy).

93 *See, e.g.*, *Biodiesel Benefits and Considerations*, U.S. DEP'T ENERGY, https://perma.cc/3MN2-JC5Z (describing how biofuel reduces emissions) (last visited Apr. 13, 2019).

94 *See, e.g.*, *Bush Delivers Speech on Renewable Fuel Sources*, WASH. POST (Apr. 25, 2006), https://perma.cc/A2YL-ZT4Q (describing ethanol as good for farmers economically).

95 *Trump Says Biofuel Plan Will 'Make Farmers Happy,' Help Refiners*, AGWEB (Apr. 12, 2018), https://perma.cc/ZD3W-VESJ (reporting changes to biofuel laws to allow for increased use of corn-based ethanol).

96 *See* Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070, 1080–81 (9th Cir. 2013) (explaining why a lifecycle analysis shows that ethanol-based biofuel can increase net greenhouse gas emissions).

97 *Biofuels*, NAT'L GEOGRAPHIC (Jan. 2, 2019), https://perma.cc/9KAM-E3KK (highlighting a debate about whether corn-based ethanol actually provides more energy than required to grow and process it).

98 Kerstine Appunn, *The History Behind Germany's Nuclear Phase-Out*, CLEAN ENERGY WIRE (Jan. 2, 2018), https://perma.cc/4444-UVLB.

Still, the potential exists to design policies to take advantage of the political economy of multiple benefits. But in doing so, analysts must consider risk/risk problems and efficacy. Climate policy can provide a very wide variety of co-benefits, implying a wide variety of policy beneficiaries.

Analytically, it will prove useful to distinguish two types of multiple benefit political economies. Some climate policies deliver benefits to special interests.[99] For example, policies promoting biofuels deliver benefits to farmers.[100] We can call this a "special interest" political economy.

Other climate policies can deliver benefits to the public at large, or at least a substantial portion of the polity. Chinese climate policies reducing local air pollution provide an example of a policy delivering benefits to the public at large.[101] We can call this a "public political economy." In practice, many policies deliver benefits that please special interests and deliver some kind of broader public benefit, but the typology will prove useful, nonetheless.

Analysts and other policy proponents can design policies consciously to deliver benefits to large numbers of people or to special interests. For example, the Waxman-Markey bill distributed emission allowances (a valuable asset under the carbon trading program the bill envisioned) for free to a wide variety of chosen beneficiaries.[102] Many economists assumed that the bill distributed all of the free allowances to special interests.[103] Robert Stavins, however, carefully analyzed Waxman-Markey and found that the bill distributed some allowances to special interests, but many more to public interests and consumers.[104] The beneficiaries of these "social interest" allowances included municipalities and low-income payers of electricity bills.[105] Hence, politicians and others can design policies to deliver benefits to special interests, to broader interests, or even to the population-at-large.

Although either a special interest or a general interest approach can prove useful, it is worth thinking a little more about what it would take to move climate policy forward when the pragmatic politician assumption does not hold. In that situation, delivery of benefits to special interests, even those usually not involved in climate policy, might not suffice to get a policy enacted. Nor does it appear obvious that a political economy of multiple benefits to public interests would necessarily change the votes of a large

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99 *See, e.g.*, Jonas Meckling et al., *Winning Coalitions for Climate Policy*, 349 SCI. 1170, 1170–71 (2015) (advocating policies designed to support green industries in order to create a political economy supportive of ambitious climate policy over time).

100 *See Economics of Biofuels*, ENVTL. PROTECTION AGENCY, https://perma.cc/Y4UY-HHAC (last visited Apr. 13, 2019) (asserting that "[d]emand for biofuels could . . . increase farm income").

101 *See* Jennifer Chu, *Study: Health Benefits Will Offset Cost of China's Climate Policy*, MIT NEWS (Apr. 23, 2018), https://perma.cc/D3B6-A5F6 (reporting that China will have widespread health benefits from climate policies).

102 *See* H.R. 2454, *supra* note 47, § 721(a).

103 *See* Stavins, *supra* note 60, at 4–6 (describing how "misleading press coverage" suggested that 75–80% of the allowances were given away to private industry).

104 *See id.* at 4 (noting that 80% of the allowances were allocated to consumers or public purposes, not to private industry).

105 *See id.* at 5–6 (describing the allocations of allowances in detail).

number of non-pragmatic politicians. An ideologue might well hold out on the grounds that climate policy implies government action, and government action is a bad idea. Although a political economy that leads to rejection of policies delivering multiple social and special interest benefits may seem like a crazy scenario in much of the world, it may describe much of the current reality in the United States in the years since Waxman-Markey failed.[106]

In the United States today, successful enactment of broad federal climate policy might require dislodging non-pragmatic politicians. That raises the question of whether climate policy can be adapted toward that end. Can one design *populist* climate policies that might galvanize voters and change electoral outcomes?

IV. THE POPULIST POLITICAL ECONOMY AND THE POPULIST CARBON TAX

Although political scientists have not settled upon a definition of the term "populism,"[107] it will help to spell out what this article has in mind in using this term and what role policy might play in spurring populist movements. Political scientists and journalists have applied the term to a wide variety of phenomena, including not only the presidential candidacies of Donald Trump and Bernie Sanders, but also to Péron in Argentina and broadly similar Latin American military dictators, and to some fascist movements in Europe.[108] This Article's concept of populism seeks to capture a common meaning of the term in the U.S. context.[109]

This Article uses the term to refer to movements that seek to appeal to common interests of the ordinary people of a nation to seek changes that overturn the power of elites.[110] Populist movements' leaders within this conception use divisive rhetoric that castigates the elites and argue that those elites do not serve the "people."[111] Thus, Bernie Sanders's claim that

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106 *See* Ritchie, *supra* note 54, at 503–04 (describing the lack of climate disruption legislation since 2008, with the exception of the Waxman-Markey bill).

107 *See, e.g.*, LAURA GRATTAN, POPULISM'S POWER: RADICAL GRASSROOTS DEMOCRACY IN AMERICA 8 (2016) (noting that the term "[p]opulism . . . has been notoriously difficult to define"); LONDON SCH. ECON. & POL. SCI., POPULISM: ITS MEANINGS & NATIONAL CHARACTERISTICS 1 (Ghita Ionescu & Ernest Gellher eds., 1969) [hereinafter NATIONAL CHARACTERISTICS] (stating that "no one is quite clear" about what populism is).

108 *See, e.g.*, NATIONAL CHARACTERISTICS, *supra* note 107, at 29 (identifying populism with Péron in Argentina and Vargas in Brazil); John Cassidy, *Bernie Sanders and Donald Trump Ride the Populist Wave*, NEW YORKER (Feb. 10, 2016), https://perma.cc/3SSN-67HG (discussing the populist appeal of both Bernie Sanders and Donald Trump); Mark Mazower, *Fascism Revisited? A Warning About the Rise of Populism*, FIN. TIMES (April 11, 2018), https://perma.cc/6FVR-X8VR (considering the interconnectivity of fascism and populism in Europe and throughout history).

109 For examples of populism in different countries, see generally NATIONAL CHARACTERISTICS, *supra* note 107.

110 *See* Ben Stanley, *The Thin Ideology of Populism*, 13 J. POL. IDEOLOGIES 95, 95 (2008) (discussing the "centrality of elite/popular antagonism to populism").

111 *See* GRATTAN, *supra* note 107, at 9 (identifying some agreement that populism valorizes the "people" while castigating a "corrupt elite"); Stanley, *supra* note 110, at 96 (emphasizing the centrality of "discourse" casting "the people" in opposition to the "elite" to the concept of

the "game is rigged" by special interests and Donald Trump's statements denigrating the political parties and the news media help define them as populists.[112] To some extent, the dominant rhetorical style of American politics includes claims to serve the people, so the castigation of elites becomes an important determinate of populism.[113]

Importantly, populism as used here refers to movements that seek radical policy changes that speak to widely shared and very important concerns. Donald Trump's proposals to build a wall to keep out Mexican immigrants[114] and threats of tariffs to force companies to bring jobs home[115] speak to many peoples' concerns about employment and low wages and play a key role in defining him as a populist. Similarly, Bernie Sanders's proposals for single-payer health care and free college tuition[116] speak to many peoples' concerns about health care costs, unaffordable college education, and debt. Hilary Clinton often claims to stand for "the people," but nobody brands her a populist partly because she does not advocate radical changes and rarely castigates elites.

Furthermore, the term populism in this Article refers to movements that have some degree of political success in mobilizing voters. A lot of movements seek to support changes on behalf of large masses of people, but the term usually gets applied only to those movements that generate changes in electoral outcomes or at least enough changes in voting patterns to cause concerns among established parties.[117]

Since climate policy serves the interests of the population at large, getting it passed may require the election of politicians who serve the interests of the broader population. This suggests the need for populism, where climate policy engages the broader needs of the population, thereby galvanizing masses of people to go to the polls and elect politicians pledged to enact policies delivering broad public benefits. In other words, we may need a populist climate policy.

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populism); Nadia Urbinati, *Democracy and Populism*, 5 CONSTELLATIONS 110, 113 (1998) (describing populism as "castigating" its critics and "inflaming anti-elite passions").

112 *See* David Dayen, *The Essential Difference Between Bernie Sanders and Elizabeth Warren*, NEW REPUBLIC (Oct. 25, 2018), https://perma.cc/HT3M-5U2P.

113 *See* MICHAEL KAZIN, THE POPULIST PERSUASION: AN AMERICAN HISTORY 1 (1995) ("[S]cores of politicians . . . vow to fight for 'middle class taxpayers' and against . . . 'bureaucrats,' 'fat cats,' and 'Big Men.'"); Stanley, *supra* note 110, at 96–97 (pointing out that mainstream parties employ "populist discourses"); Urbinati, *supra* note 111, at 112 (describing demagoguery as a "component" of populism).

114 *See* Annie Karni & Sheryl Gay Stolberg, *Trump Offers Temporary Protections for 'Dreamers' in Exchange for Wall Funding*, N.Y. TIMES (Jan. 19, 2019), https://perma.cc/2PRU-TUUP.

115 Peter S. Goodman, *Trump Has Promised to Bring Jobs Back. His Tariffs Threaten to Send Them Away.*, N.Y. TIMES (Jan. 6, 2019), https://perma.cc/76F9-KP6U (describing the impacts of tariffs ordered by Donald Trump in an effort to keep jobs within the United States).

116 Haley Sweetland Edwards, *Here's How Much Bernie Sanders Would Raise Taxes*, TIME, https://perma.cc/U5FS-UR2H (last updated Jan. 28, 2016).

117 *Cf.* GRATTAN, *supra* note 107, at 1–2 (applying the term far more broadly without explaining what definition she has in mind).

The idea of a populist climate policy arises from an analysis of types of multiple benefits political economies. Public choice theory points out that special interests are well organized and can follow issues of importance to them consistently. By contrast, the public as a whole does not regularly pay attention to all of the wide variety of issues that may affect it and usually lacks organization. For that reason, delivering benefits to the broader public through a multiple benefits proposal may not garner sufficiently active public support to overcome failures in the politics of compromise. In order for a multiple benefits proposal to garner active support from a habitually inattentive public, it must deliver benefits that meaningfully address current core dissatisfactions to galvanize public activism. The idea of a populist climate policy involves trying to identify those multiple benefits proposals likely to have transformative potential.

In spite of the day-to-day dominance of special interests, public opinion can, during periods of heightened engagement, drastically change political reality. This insight comports with Bruce Ackerman's idea of constitutional moments, where the public demands far reaching changes that transform the polity.[118] It also helps explain the extraordinary proliferation of federal environmental statutes in the early 1970s, as an aroused public demanded, and received, a major departure from an approach to environmental policy that treated environmental protection as a state option, rather than a federal obligation. This kind of transformation may be needed to overcome ideological rigidity that precludes sufficiently effective federal climate policy in the United States.

Furthermore, policy proposals can play a role in changing public opinion in ways that shift political reality, with or without popular rebellion. Thus, Abraham Lincoln's proposal to free the slaves helped galvanize support for the Union's cause and led to a transformation of the constitutional structure after the civil war.[119] Franklin Delano Roosevelt's proposal of a New Deal led to the enactment of policy proposals that appeared unthinkable prior to his presidency.[120] And, of course, proposals for strong federal laws protecting the environment played a role in the environmental movement of the 1960s and 70s.

More recently, Bernie Sanders's proposals for single payer healthcare and free college tuition helped generate an outpouring of public support for a candidate well outside the political mainstream of the early twenty-first century.[121] Even though Sanders did not win the Democratic nomination for President, he may have changed politics through this advocacy of populist proposals. Similarly, Donald Trump's tariff and immigration proposals speak to widely held anxieties about job loss among many voters, may have helped him become president and drastically changed public policy in ways

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118 *See* BRUCE ACKERMAN, WE THE PEOPLE 2: TRANSFORMATIONS 5–7 (1998) (identifying the New Deal and Reconstruction as "moments of mobilized popular renewal" and as a distinctive part of the American Constitution).

119 *Id.* at 18.

120 *See id.*

121 *See* Edwards, *supra* note 116.

unthinkable prior to his advocacy of walls and tariffs.[122] These examples suggest that populist policy proposals can play a role in getting people to vote for the politician advocating the proposal and thereby change policy.

To be sure, populist political campaigns do not rely solely on policy proposals to achieve victories. A candidate's messaging and personality may matter more than her policies.[123] Yet, policy proposals do play a role in electoral contests, so populist climate policy could play a role in galvanizing voters, and candidates can craft simple messages that advance the policy proposal. Just as tariffs and a wall might help convince voters that the candidate will "make American great again," a populist climate policy might persuade voters to "make America safe again" or "take back our government."

A populist climate policy requires a reorientation in how we think about climate policy. This reorientation starts with the recognition that climate policy in the United States (and in some other countries) by itself has little potential to galvanize voters.[124] Polls consistently show that much of the U.S. population considers climate disruption (and environmental protection more generally) a fairly low priority issue.[125] Climate disruption occurs over long time scales, involves complex science, and produces hard to grasp

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122 *See, e.g.*, Trump v. Hawaii, 138 S. Ct. 2392, 2403–06 (2018) (describing Trump's travel bans affecting predominately Muslim countries); Ms. L. v. U.S. Immigration & Customs Enf't, 310 F. Supp. 3d 1133, 1135 (S.D. Cal. 2018), *appeal docketed*, No. 18-56151 (9th Cir. Aug. 27, 2018) (discussing a policy of taking children from their parents when families enter the United States illegally); Ana Swanson & Alan Rappeport, *Trump May Soften Sweeping Plan to Restrict Chinese Investments*, N.Y. TIMES (June 26, 2018), https://perma.cc/AQR8-MJ9Z (discussing Trump's threats of tariffs and investment restrictions against China).

123 *See, e.g.*, CHRISTOPHER H. ACHEN & LARRY M. BARTELS, DEMOCRACY FOR REALISTS: WHY ELECTIONS DO NOT PRODUCE RESPONSIVE GOVERNMENT 37 (2016) (stating that voters "know jaw-droppingly little about politics"); Evan J. Criddle, *Fiduciary Administration: Rethinking Popular Representation in Agency Rulemaking*, 88 TEX. L. REV. 441, 447–48 (2010) (arguing that public ignorance about regulation defeats the theory that presidential regulatory decisions reflect the public's views); Nate Cohn, *How the Obama Coalition Crumbled, Leaving an Opening for Trump*, N.Y. TIMES (Dec. 23, 2016), https://perma.cc/HD53-3GQG (explaining that voters who liked Obama's policies supported Trump because they liked his outsider approach); Michelle Alexander, *Why Hillary Clinton Doesn't Deserve the Black Vote*, NATION (Feb. 10, 2016), https://perma.cc/4GDU-JNAE (explaining that black voters preferred Hillary Clinton over Bernie Sanders, even though Sanders' policy proposals better serve their interests).

124 *See* Sarah E. Light, *Precautionary Federalism and the Sharing Economy*, 66 EMORY L.J. 333, 354 (2016) (pointing out that "environmental protection is not the only salient issue for voters").

125 *See* Monica Anderson, *For Earth Day, Here's How Americans View Environmental Issues*, PEW RES. CTR. (Apr. 20, 2017), https://perma.cc/JF54-7JEU (showing that 55% of Americans viewed environmental protection as a top priority whilst more than 70% viewed strengthening the economy and combatting terrorism as top priorities); PEW RESEARCH CTR., PUBLIC'S POLICY PRIORITIES REFLECT CHANGING CONDITIONS AT HOME AND ABROAD: FEWER CITE ECONOMY; MORE PRIORITIZE A STRONG MILITARY 2 (2015), https://perma.cc/JC9N-QUYJ (finding that only 38% of the public identified climate disruption as a top priority in 2015).

changes.[126] So, it does not motivate most people in the same way as more immediate issues.

Design of a populist climate policy would involve efforts to link climate action to concerns that more often motivate large numbers of voters in order to effectuate a change in politics. In other words, climate policies that deliver benefits that motivate voters might help galvanize the sort of political change that could dislodge non-pragmatic politicians.

This idea may appear to have limited potential, because climate policies might not implicate the issues of greatest concern to voters. If it is impossible to design climate policies that affect the issues voters care most about, then a populist climate policy is impossible.

In fact, however, carbon taxes have extraordinary capacity to deliver benefits that galvanize voters, because taxes raise revenue.[127] And money can be devoted to a wide variety of purposes. Money is, after all, fungible.

Without suggesting that a carbon tax is the only possible application of the idea of a policy with populist potential, the analysis below works through some basic principles of how to develop a populist carbon tax. This discussion both serves to concretize and further develop the idea of a populist political economy as a possibility guiding design of populist policies in places where environmentally adequate proposals accommodating rather than challenging current political reality cannot succeed.

Those crafting a populist climate policy proposal might use opinion research and experienced political actors' political judgment to choose what to fund with revenues garnered through a carbon tax.[128] Thus, for example, if one found that voters cared a lot about having Medicare for all, one might design the tax to finance this program. If one believes that a proposal to fund infrastructure investments would deliver important benefits and galvanize voters, one might propose that revenues go toward that end. One could plausibly use a sufficiently robust tax to fund several populist priorities.

In the past, many policy analysts have tended to support carbon taxes based primarily on a political economy of compromise. Thus, their proposals tended to assume that revenue would be devoted to lowering other taxes, like payroll and income taxes, as this would please conservatives while

126 *See* STEPHEN ANSOLABEHERE & DAVID M. KONISKY, CHEAP AND CLEAN: HOW AMERICANS THINK ABOUT ENERGY IN THE AGE OF GLOBAL WARMING 154 (2014) (describing climate disruption as a low public priority because it is a "distant, vague concern").

127 *See* Jenkins, *supra* note 59, at 475 (finding "creative use" of revenues from carbon pricing critical to maximizing their environmental efficacy).

128 *Cf.* David Roberts, *The Political Hurdles Facing a Carbon Tax—and How to Overcome Them*, VOX (Apr. 26, 2016), https://perma.cc/3XUH-2D9W (discussing polling data that shows another compromise proposal, returning tax revenue to consumers so as not to grow the government, enjoys little public support).

enhancing economic efficiency.[129] Others suggest another use of revenue to please conservatives: deficit reduction.[130]

If nothing else, the idea of a populist political economy should open up some room for alternative visions of what might be plausible. This may be a good idea, since broad federal proposals based on the political economy of compromise have not passed. The social science literature suggests that the plans for revenue from climate policies can influence voters' attitudes toward the policy.[131] It shows that voters' support for a carbon tax increases when policymakers plan to devote the revenue to funding clean energy, rather than lowering the deficit or even providing rebates to consumers.[132] The Regional Greenhouse Gas Initiative uses revenues from auctioned allowances to generate revenue for energy efficiency and clean energy.[133] The data, although limited, suggest that proposals with some populist appeal may prove quite different from proposals aiming to enhance economic efficiency, persuade politicians now in office, or placate the special interests at the center of proposals based on the political economy of compromise. On the other hand, the literature that focuses on public rather than elite perception tends to focus narrowly on *environmental benefits* from revenue expenditures. The idea of a populist political economy points to the need for more research about a broader range of potential revenue uses to identify the most galvanizing proposals.

Perhaps we should think about a carbon tax paying for infrastructure investment. Both President Trump and Bernie Sanders proposed spending $1 trillion on infrastructure over ten years.[134] Support for such a program by Trump and Sanders suggests that a carbon tax designed to raise $1 trillion for infrastructure might have populist appeal. I have suggested conducting social science research to try and gauge voter enthusiasm. The research that

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129 *See* Jenkins, *supra* note 59, at 474 (pointing out that the economic literature argues that using carbon tax revenues to reduce income taxes minimizes "distortions"); Roberts, *supra* note 128, at 12 (stating that "many conventional economists" and some conservatives favor using carbon tax revenue to reduce other taxes).

130 *See* ANSOLABEHERE & KONISKY, *supra* note 126, at 193 (mentioning proposals to use carbon tax revenue to reduce debt as a proposal of an ideologically diverse group, including Gregory Mankiw, the former chair of President George W. Bush's Council of Economic Advisors).

131 *See, e.g.*, DAVID ADMUR ET AL., CTR. FOR LOCAL, STATE, AND URBAN POLICY, PUBLIC VIEWS ON A CARBON TAX DEPEND ON THE PROPOSED USE OF REVENUE 1 (2014), https://perma.cc/D7QY-9BYB (comparing public perceptions of carbon taxes with various specified uses of the revenue).

132 *See id.* (finding that 60% of Americans support a carbon tax when the revenue supports research and development of renewable energy, but only 38% support it when revenue reduces the deficit and only 56% support it when the revenue comes back to consumers as a rebate).

133 *See* Raina Wagner, *Adapting Environmental Justice: In the Age of Climate Change, Environmental Justice Demands a Combined Adaptation-Mitigation Response*, 2 ARIZ. J. ENVTL. L. & POL'Y 153, 167–68 (2011) (describing some of the uses of the Regional Greenhouse Gas Initiative auction revenue).

134 *See* David Driesen, *Tax Credits and Public Spending on Infrastructure*, CTR. FOR PROGRESSIVE REFORM (Jan. 30, 2017), https://perma.cc/9Q98-5H8L (discussing Trump's campaign promise of a trillion-dollar infrastructure program); *Bernie Sanders on Infrastructure*, FEELTHEBERN.ORG, https://perma.cc/URV9-BTQT (last visited Apr. 13, 2019) (showing Sanders' support for a trillion-dollar infrastructure program).

has been done suggests strong support across the ideological spectrum for infrastructure spending.[135] A carbon tax devoted to funding infrastructure might have populist appeal, and the concept of a populist climate policy would suggest further assessment of that hypothesis. If it does, then those seeking adoption of climate policy, in spite of a breakdown of the politics of compromise, should urge candidates to put this carbon tax proposal forth as part of their electoral campaigns.

Most voters, however, vote more on the basis of messaging than on policy specifics. Accordingly, messaging would be extremely important.[136] Since the primary appeal to voters derive from the proposals' economic benefits, politicians proposing this might emphasize infrastructure's benefits to newly employed workers, to labor markets, and/or to the economy as a whole, preferably with a pithy slogan (*e.g.* "I plan to generate thousands of high paying jobs by building the infrastructure our economy desperately needs."). Opponents would, of course, point out that the policy includes a tax, but as I indicated, people's readiness to accept a carbon tax does vary with how one spends the revenue.[137] I do not mean to fully flesh out the messaging strategy here, which might include targeted statements on climate benefits as well, but I do mean to flag that messaging matters.[138]

The concept of choosing a populist approach to climate policy does not preclude asking questions about the soundness of the policy. It will not do any good to get people elected by using policy proposals that would only harm us if enacted. On the other hand, it might be worth choosing some second or third best options that might get enacted in spite of the breakdown of the political economy of compromise.

Designing a carbon tax to raise revenue, whether or not it serves populist fiscal goals, requires the designer to consider the tension between using a carbon tax for environmental purposes and using it for fiscal purposes. An environmentally effective tax advances environmental goals by encouraging legal tax evasion. Taxpayers reduce emissions in response to the tax, substituting relatively cheap pollution control for otherwise mandated tax payments. A carbon tax will maximize revenue when taxpayers pay the tax without reducing emissions. In practice, a carbon tax is likely to both raise a substantial amount of revenue and reduce carbon emissions. This dualism arises from the varying cost of different ways of reducing carbon emissions. Generally, carbon taxes provide an incentive to

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135 *Across Party Lines, Registered Voters Support Investment in Nation's Infrastructure*, YALE PROGRAM CLIMATE CHANGE COMM. (Dec. 13, 2016), https://perma.cc/9RPE-MYFY (showing polling results indicating strong bipartisan support for infrastructure).

136 *See* Barry G. Rabe & Christopher P. Borick, *Carbon Taxation and Policy Labeling: Experience from American States and Canadian Provinces*, 29 REV. POL'Y RES. 358, 360 (2012) (explaining that characterizing a carbon tax policy to the public to highlight public benefits in how the revenue is allocated can increase the popularity of carbon taxes).

137 *See, e.g.*, ANSOLABEHERE & KONISKY, *supra* note 126, at 183 tbl.8.1, 187 (suggesting that a carbon tax attracts less public support than any other environmental instrument, but discussing polling that indicates using the revenue to reduce other taxes increases public support).

138 *See, e.g.*, Rabe & Borick, *supra* note 136, at 362–63 (describing various labeling strategies for enacting prices on fossil fuels that reduce carbon emissions).

reduce carbon emissions only through deployment of carbon abatement options costing less than the tax.[139] With respect to more expensive carbon abatement options, rational polluters will prefer paying the tax to undertaking abatement.[140] Any reasonable tax rate, therefore, will both catalyze some tax avoiding carbon abatement and some payment of the tax upon the residual emissions remaining after taxed polluters have executed cost effective abatement options. Accordingly, one needs an economic model to predict which priorities a carbon tax is likely to fund adequately in light of the costs of various carbon abatement options.

Some economic modeling has been done. The Congressional Budget Office has estimated that a $25 per metric ton tax on carbon would raise about $1 trillion, the amount suggested for infrastructure in popular political discussion.[141] This translates to the equivalent of a twenty-five-cent increase in gasoline prices.

Economic modeling, however, may not prove precise, especially if legislators adopt a tax rate high enough to meaningfully advance efforts to avoid dangerous climate disruption. Policy makers and economic modelers often overestimate the costs of pollution control, because once a reasonably robust incentive for reductions is in place, polluters may find ways to reduce costs not anticipated by modelers.

This dynamism suggests that taxation can erode the tax base to a greater degree than modelers anticipate, thereby producing revenue shortfalls. To some degree, this is true of any tax system: the tax base may change in response to the tax. But this dynamic of a tax eroding a tax base does mean that there may be a need to revise the tax from time to time to achieve policy makers' fiscal goals.[142]

Of course, one can design an emissions trading program based on auctioned allowances on the same principle as a populist carbon tax. That is, polling and the judgment of political actors can be used to develop a proposal that dedicates allowance revenue to priorities that may galvanize voters and play a role in changing politics. And it may be possible to identify other kinds of policies that take advantage of the conception of a populist political economy. But the idea of a populist carbon tax and the more specific idea of dedicating carbon tax revenue to infrastructure show that a populist climate policy is possible.

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139 *See* David Driesen, *Economic Instruments for Sustainable Development*, *in* ENVIRONMENTAL LAW FOR SUSTAINABILITY: A READER 277, 284 (Benjamin J. Richardson & Stepan Wood eds., 2006) (explaining that pollution taxes induce clean-up when the cost of clean-up is less than the marginal tax rate).

140 *See id.* (noting that when clean-up costs more than the marginal tax rate one can expect the polluter to pay the tax instead of cleaning up).

141 *See Impose a Tax on Greenhouse Gases*, CONG. BUDGET OFF. (Dec. 8, 2016), https://perma.cc/82TH-RZZ9 (estimating that a $25 per metric ton carbon tax would raise $977 billion between 2017 and 2026).

142 *See generally* Kevin Ummel, *Impact of CCL's Proposed Carbon Fee and Dividend Policy: A High-Resolution Analysis of the Financial Effect on U.S. Households* 1–2 (Int'l Inst. for Applied Sys. Analysis, Working Paper v1.4, 2016), https://perma.cc/3RXG-CJB4 (employing a static analysis to model a carbon tax's impact on individual households).

The foregoing analysis shows how the concept of a populist political economy changes the questions we might ask about the policy proposal's political efficacy. We do not ask whether it has political appeal to the current legislative majority, but instead focus on its appeal to the public as a means of changing electoral results. And in analyzing its appeal to the public, the concept demands going beyond asking whether a proposal benefits the public and enjoys public support to assess whether the proposal has sufficient appeal to galvanize voters sufficiently to help change electoral outcomes.

V. CONCLUSION

Public choice theory's application to climate disruption has led to proposals seeking to realize a political economy of compromise. The political economy of compromise not only seeks to appeal to special interests; it also seeks to take into account political ideology in the broad sense. Proposals to take advantage of the political economy of compromise face daunting challenges in an era in which rigid ideology has such a significant place in American politics.

The global history of policies reducing greenhouse gas emissions, however, suggests that a political economy of multi-benefits might succeed in cases where the political economy of compromise fails. In cases where anti-government ideology has become extreme, however, many types of multiple benefits proposals may fail. In that case, the best hope may be proposals trying to take advantage of the political economy of populism, a type of multiple benefits proposals crafted to galvanize voters to demand broad political changes. A carbon tax can be designed with such populist goals in mind. This explanation of the concept of a populist political economy should pave the way for other proposals on the concept.

Indeed, as this Article went to press, a new proposal emerged that appears to fit the populist political economy idea quite well—the Green New Deal.[143] It calls for new infrastructure spending aimed at rapidly moving to zero net carbon emissions while delivering "millions of good, high-wage jobs."[144] The analysis above suggests that a bill based on this proposal has no chance of passing in the next two years, because the political economy of compromise is broken.[145] The cosponsors and presidential candidates who support the Green New Deal should view it as a vehicle for changing electoral results and use the analysis offered in this Article to shape the proposal's development and advocacy. I expect to analyze how the populist political economy concept can guide this shaping in a subsequent article.

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143 H. R. Res. 109, 116th Cong. (2019).

144 *Id.* §§ 1(a)–(c), 2.

145 *Accord* Lisa Friedman & Trip Gabriel, *A New Deal at Once Possible and Problematic,* N.Y. TIMES, February 22, 2019, at A1 (stating that the Green New Deal has no "chance of passing in the currently divided Congress"). The bill is also not an especially good vehicle to stimulate compromise among existing forces. *Cf. id.* at A19 (citing a moderate Republican Congressman as favoring a carbon tax but likely to vote against the Green New Deal).