How Corporate Dark Money Weakens Democracy and Shapes Climate Policy

A senior thesis presented to the Yale Department of Political Science in partial fulfillment of the requirements for the Bachelors of Arts Degree

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Friday, December 10th, 2021
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Acknowledgements:

I would like to thank my advisor, Professor Jacob Hacker, and Sam Zacher, the Teaching Fellow for the course, “Money in American Politics,” in which I wrote this senior essay. At the start of this semester, I came to Professor Hacker and Sam with values—a belief that ordinary Americans, not corporations or economic elites, should guide policy in this country, and a deep concern about the existential threat of climate change—but no idea what question I actually wanted to answer in my senior thesis. They asked me difficult questions, pushing me to create a final essay that embodies those values and explores their implications. Professor Hacker challenged me, again and again, to step back and ask myself, “What am I really researching here? Will my methods bring me to an answer to these questions?” He encouraged me to step back, to breathe, and to not be afraid of starting over. When the prospect of starting my research anew frustrated me, Sam was a generous listener and a patient teacher, guiding me through the complexities of R with grace and a level head. He went above and beyond the responsibilities of a Teaching Fellow—he was a mentor, an advisor, and a role model to me. Thanks to Sam and Professor Hacker, I will leave Yale with not only a new way of thinking about the forces at play in public policy, but a renewed understanding that, however amorphous and frustrating the path forward may feel, I can trust myself to craft a final product that makes me proud.
Abstract:

A growing body of theoretical and empirical research posits a small group of key actors—corporations, the interest groups that advocate for them, and the elites who pocket their profits—as the decisive actors in our political system, rather than voters. These corporate actors seek to manipulate the institutional framework of policy-making, or the policy “terrain,” to prioritize their voices over the voices of voters, when it comes to particular policy “prizes” they hope to secure. In this essay, I investigate whether corporate dark money reshapes the policy terrain by reducing state-level democracy, and how dark money affects the policy prize of state renewable portfolio standards (RPSs), a policy whereby a certain proportion of the state’s energy sector is required to be derived from renewable sources. I use a generalized synthetic control method to find that the influx of dark money in some states as a result of the Supreme Court’s 2010 Citizens United decision caused those states’ democracies to dramatically worsen. I do not find evidence that corporate dark money had an effect on state RPSs, but I argue that the lack of observed changes to existing state RPSs after 2010 may be indicative of an effort by the corporate community to maintain the status quo, particularly in Republican states. The corporate allegiance to Republican legislators is therefore associated with multiple benefits to corporations: the attainment of favorable policy objectives that protect their profits, as well as the security of knowing that voters who may oppose corporate greed are unable to make their voices heard.
1. **Introduction:**

American democracy is under attack. In the nine months between January 1st and September 27th, 2021, 19 states successfully passed laws that restricted the right to vote, while 30 more saw the proposal of over 400 such bills in their legislatures (Brennan Center, 2021). The bills in question—voter identification laws, restrictions to early and absentee voting, limits to voting hours, and other similar proposals—disproportionately restrict the right to vote for low-income and Black and brown Americans (Mitchell, Clemens, & Lake, 2021; Ansolabehere & Hersh, 2017). Of the 19 states where these restrictive bills were successful, 17 were controlled by Republicans in both the upper and lower chambers of government. Meanwhile, 25 states took down barriers to voting. The vast majority of these states were entirely controlled by Democrats. Empirical research reflects the partisan nature of antidemocratic efforts: recent findings show that Republican control of state government is the single largest factor influencing a state's relative democracy (Grumbach, 2021). In other words, restricting the right to vote is a thoroughly Republican enterprise.

At the same time, money is playing a growing role in our politics. 2020 was the most expensive election in history, totaling over $14.4 billion in spending. Not all of this spending is accounted for—anonymous donors spent a billion dollars or more on advertising, grassroots organizing campaigns, and other strategies to influence the outcome of the election1. This “dark money” is an underexplored force in the political system, despite its magnitude. Its effects are insidious and difficult to track, particularly because dark money contributions are made to political groups that are not mandated by U.S. law to report their donors (e.g., politically active

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1 Massagolia & Evers-Herstrom, “‘Dark money’ topped $1 billion in 2020, largely boosting Democrats”, *OpenSecrets News.*
nonprofit organizations, such as 501(c)3 or 501(c)4’s). Money, both anonymized and not, is rushing into every facet of politics. For the most obscure spending, the question is, to what end?

In this essay, I seek to unravel the links between undisclosed campaign spending and Republicans’ antidemocratic efforts in the last two decades. Corporate dark money is a decisive force in the perpetual discrepancy between lawmakers’ and voters’ preferences. I posit that corporations intentionally use dark money to perpetuate a discrepancy between voters’ preferences for certain policies and their representatives’ reluctance to sign those policies into law.

Nowhere is this dynamic more evident than on the issue of climate change, an existential and rapidly-worsening threat to the most vulnerable communities in the U.S. A bipartisan majority of voters are in favor of legislation that reduces greenhouse gas emissions and promotes renewable energy (Howe et al., 2015), yet due to the influence of polluting industries such as Big Oil and Gas, effective climate policy has proved all but impossible to pass on a national scale (Stokes, 2020). These industries have long sought to maintain the status quo by sowing doubt about the reality of climate change and otherwise shaping public opinion, but as the impacts of climate change become undeniable for American voters, outright denialism is becoming less than effective as a mechanism of obstructing action on climate change. Two mechanisms of obstruction remain. The first is to attempt to manipulate proposed climate policies such that they will be minimally harmful to these corporations’ profits. The second is for the industries to ally themselves with Republicans, many of whom are happy to obstruct climate policy and deny the reality of the climate crisis if it means receiving large campaign contributions from the corporate world. This essay investigates both strategies.
Citizens United v. Federal Election Commission (FEC) provides a natural experiment that political scientists are able to leverage in studying the effects of dark money on policy-making at the state level. The decision greatly magnified corporations’ role in politics by permitting them to spend unlimited amounts on campaigns, so long as those independent expenditures (IEs) are not demonstrably the product of the corporation’s direct coordination with the campaign. Although this kind of spending was not illegal on a national scale before Citizens United, many states had taken it upon themselves to place bans or limits on corporate independent spending. After the decision, those states were forced to roll back such restrictions. This exogenous shock to the system of campaign finance allows political scientists to compare those states that were forced to roll back their restrictions and consequently experienced a flood of corporate dark money to states that had never had these restrictions in the first place. Gilens et al. (2021) tested the impacts of Citizens United on a variety of financial and social policies and found that states that had previously banned independent corporate expenditures adopted more “corporate-friendly” policies (e.g., lower corporate state income taxes) after the decision had been passed, though policies more tangentially related to corporate activity (e.g., abortion and gun control laws) were negligibly affected by the ruling.

In this essay, I employ the methodology from Gilens et al. (2021) to examine two outcome variables absent from their analysis: climate policy and democracy policy. First, I test the hypothesis that corporations use dark money spending to reduce the impact of state renewable portfolio standards (RPS), energy policies whereby a certain proportion of state energy must be derived from renewable sources. Then, I use the same approach, but with Grumbach’s state-level index of democracy (2021) as the outcome variable to test whether the
influx of corporate dark money in states that were forced to roll back their corporate IE restrictions became less democratic.

My results confirm my expectations with respect to the democracy index, but reveal a more nuanced picture of the RPS measure. I find that dark money is associated with a severe reduction in state-level democracy, with “treated states”—states that had to roll back their restrictions on IEs—experiencing a 58% decrease in their democracies, relative to untreated states, according to the 61 indicators of democracy included in the index (Grumbach, 2021). However, I did not find evidence that treated states experienced a decrease in the stringency of their RPSs after *Citizens United*. This result can most likely be attributed to the fact that states that were motivated to adopt RPS policies did so in the late 90s and early 2000s, but by 2010, the states that had been motivated to adopt RPS policies had already done so, and the states that had never been willing to adopt RPSs were still unwilling to do so by the end of the study period (2014). Moreover, I find some evidence for the theory that the lack of change in RPS policy was still favorable for corporations, and by allying themselves with Republican state legislators, polluting industries were able to ensure that energy policy does not depart from a favorable status quo. These results provide evidence that corporate dark money reshapes the legislative terrain to corporations’ benefit, which includes maintenance of a status quo of ineffective or nonexistent climate policy.

2. **Literature Review:**

2.1. *The Disconnect Between Lawmakers’ and Voters’ Preferences*

Majoritarian electoral democratic theory, which centers voter preferences as lawmakers’ top policy concern, provides little by way of explanation for the discrepancy between the policies
that voters want and the policies that legislators sign into law. This dominant theory in the field of political science is rooted in the philosophy of Alexis de Tocqueville, who viewed voters as “omnipotent” and cautioned his contemporaries against the “tyranny of the majority” (Tocqueville, 1835-40). Downs’ median voter theorem draws from these fundamental concepts; he maintains that voters tend to agree more than they disagree, so politicians of either party will take positions close to the ideological center in order to appeal to as many voters as possible. According to the theorem, the voter at the midpoint of the ideological spectrum attracts opposing politicians, who are propelled toward one another until they converge (Downs, 1957). Majoritarian electoral democratists therefore believe that majority will guides public policy. About two-thirds of the time, federal policy does align with the preferences of the electorate (Erikson, et al., 2002).

The other third of policies, however, do not align with what voters want. Climate policy is one of many issues—including universal background checks for gun buyers, an increased federal minimum wage (Hertel-Fernandez et al., 2019), and decreased spending on the Pentagon—that has broad support among both Democrats and Republicans, yet has proved all but impossible to sign into law in Congress (Hannah et al., 2021; Hertel-Fernandez et al., 2019). At the state level, legislators only pass laws that align with their constituents’ preferences about half of the time (Lax & Phillips, 2012). How can scholars of public policy account for this discrepancy?

There is an electoral explanation to legislators’ disinterest in serving average Americans and their heightened attention to the desires of affluent interests. Both legislators and the most politically active voters are wealthier than the average American. Franko, Witko, and Kelly (2016) find a significant class bias among voters—in every state, wealthier Americans are more
likely to vote. Furthermore, states in which the wealth gap between voters and non-voters is especially pronounced are also more likely to be conservative (Franko, Witko, & Kelly, 2016). This finding provides one possible reason for legislators’ refusal to cater to the preferences of a majority of voters on many major issues. Carnes’ 2013 *White-Collar Government: The Hidden Role of Class in Economic Policy-Making* suggests an additional clue: lawmakers themselves are far wealthier than voters. Carnes finds that in the 100 years of federal lawmaking before 2010, there has never been more than two percent of Congress that comes from a working class background. At every level of government, from city council to the Presidency, the average politician is at least 40% more likely than the average citizen to have a college degree, come to politics from a white-collar (i.e., not working-class) occupation, and to be a millionaire. Carnes then focuses on a slate of major economic policies that benefit corporations and the extremely wealthy to demonstrate that, had Congress been socioeconomically representative of the rest of the country when those laws were first proposed, they would have been unlikely to pass (Carnes, 2013). In sum, wealthy voters tend to choose more conservative politicians, and wealthy politicians tend to sign conservative policies that benefit wealthy people into law. At least part of the incongruent conservatism of our legislators is a result of the wealth bias of voters and the legislators themselves.

However, a focus on the electorate, representatives, and voter-candidate interactions misses a more structural dynamic at play. A number of political scientists are now advocating for a different model of policy responsiveness entirely—one that departs from the voter-centric model advanced by Downsian political theorists and instead focuses on a smaller set of actors that employ both electoral and non-electoral methods to advocate for changes in policy that benefit them. Elections are one method among many of achieving these actors’ true objective:
changing policy. This policy-focused framework, advanced by Schattschneider as early as 1935 and revived recently by scholars such as Hacker and Pierson (2014), centers well-resourced and well-connected interests, who influence policy in order to create a “policy terrain” of institutional mechanisms that are easy to manipulate to encourage legislators to enact a “policy prize” that directly benefits those outside interests. We are living with the effect of this policy terrain: an economy marked by a hyper-concentration of wealth in the hands of a select few and legislative bodies that deliver corporate interests and the most affluent voters the policy “prizes” those actors seek, but are unconcerned with the desires of average citizens and the mass-based interest groups that advocate for them (Hacker & Pierson, 2010; Gilens & Page, 2014). This essay situates democracy policy as a mechanism of manipulating the policy terrain, and renewable portfolio standards (RPSs) as the policy prize for polluting corporations.

2.2. Spending As a Mechanism of Influence

Political spending represents one of the major routes by which this policy terrain has emerged. Analyzing political contributions can be difficult—money often influences our politics through circuitous and clandestine pathways, many of which are protected by law from researchers’ eyes. It has been so difficult to measure the full impacts of money on our political system that, for many years, it seemed that there was actually far less money involved in politics than expected. The question was not, “How does corporate spending impact American politics?” but “Why is there so little money in U.S. politics?” (Ansolabehere et al., 2003).

Campaign contributions from individuals and corporate political action committees (PACs) directly to politicians’ campaigns, or “hard money,” is the only spending that comes readily accessible for analysis. However, the interests of major PACs and wealthy contributors
are not clearly reflected in the roll-call votes of the recipients of these contributions in Congress. Direct contributions by corporate PACs have long baffled political scientists—individuals contribute far more hard money than corporations in the aggregate, while corporations contribute far less than they could be spending under the limits imposed by the Federal Election Campaign Act and state-level lawmaking. Furthermore, when comparing these contributions to legislators’ roll-call votes, there is little evidence that these donations immediately translate to the kinds of policies that corporations favor (Ansolabehere et al., 2003).

However, studies that focus solely on PAC contributions and roll-call votes miss an enormous amount of corporate spending and political activity that occurs outside the bounds of normal hard money spending. Since direct contributions must be reported to the Federal Elections Commission, corporations have an incentive to opt for more opaque methods of spending when contributing to candidates. Corporate political spending often causes backlash among shareholders and consumers that disagree with the PAC’s choice of candidate or object to the politicization of this seemingly apolitical corporate entity (Werner, 2017). Furthermore, the strict limits on spending imposed at the federal and state level mean that direct donations are typically too small to be meaningful to the lawmakers who receive them. Hard money contributions are more effective as a method of purchasing access to a candidate or signaling interest in the candidate’s platform, than as a tactic of effecting favorable policy. Corporations use PAC contributions in conjunction with other methods of political influence—such as lobbying, which dwarfs hard money in corporate spending—to gain the access they need to drive home their priorities (Grumbach & Pierson, 2019; Kalla & Broockman, 2015). They can wield their dollar to effect favorable policy through other, less conspicuous, more influential channels.
In contrast to “hard money,” “soft money” refers to spending by any group that is not a political party and is making a contribution that is uncoordinated with the candidate’s campaign. Buying advertising that advocates for or against a candidate, going door to door on behalf of that candidate, or running phone banks all fall within this category of spending, so long as those activities are not conducted in express connection with the candidate’s campaign itself. Soft money is particularly advantageous for corporations because it is unregulated; per the 2010 Supreme Court decision in *Citizens United v. the FEC*, there are no limits on spending in this arena. Donors are either partially anonymous in the case of “grey money” (Grumbach & Pierson, 2019), or kept fully secret—“dark money.” Whereas corporations tend to counterbalance their hard money contributions to Republican candidates with contributions to Democrats, there is no such counterbalancing effort for soft money. Instead, the most influential soft money organizations donate exclusively to Republicans (Grumbach & Pierson, 2019).

For “grey money,” as coined by Grumbach and Pierson (2019), it is possible to track at least part of what is being spent and who is spending it. Grey money organizations are politically active business organizations like the Chamber of Commerce or party intermediaries like the Republican Governors’ Association or the Democratic Governors’ Association. The Chamber of Commerce is a particularly influential player in politics—the organization raised over $270 million in 2015 and was the largest non-disclosing outside spender in both the preceding and subsequent years. In 2016, the Chamber did not give to Democrats at all, and has consistently proved to be the largest single donor to the Republican State Leadership committee, which coordinates GOP campaigns at the state level. Grey money is a powerful, but oft-neglected force in the field of political science (Grumbach & Pierson, 2019).
Dark money groups, on the other hand, hold the distinct advantage of being exempt from reporting requirements of any kind. They channel enormous contributions through tax-exempt nonprofits, independent expenditure committees also known as “super PACs,” and LLCs and shell companies. None of these organizational entities are legally obligated to report their donors, and in some states they do not even have to report their full spending amounts, which makes it difficult to estimate the full scale of dark money in politics. However, some estimates land at over $1 billion in entirely anonymous contributions since 2010 (Evers-Hillstrom, 2020). What insights researchers have been able to glean from dark money contributions indicate that donors will contribute anonymously when they want to contribute to a cause that threatens their public image, particularly when it comes to conservative causes. Oklobdzija (2019) found that wealthy donors who had previously openly contributed to liberal issues were quietly contributing far more to conservative ones through dark money networks. This finding suggests that hard money contributions are worth considering not as a method of effecting favorable policy, but as a method of signaling one’s political position. Dark money contributions, on the other hand, both suggest the “true preferences of the donor and are a more instrumental tool in influencing policy. It is for these reasons that dark money contributions are the focus of this essay.

2.3. The Role of Citizens’ United in Shaping the Institutional Landscape

The Citizens United decision was instrumental in boosting the role of dark money in politics. In the decision, the Court ruled that it was unconstitutional to limit independent expenditures—that is, “soft money,” or political spending that is uncoordinated with a politicians’ campaign. This decision was based on precedent set by the 1976 Buckley v. Valeo decision that established political spending as an act of free speech. Under Citizens United,
corporations and unions were granted the same free speech rights as individuals, and thus permitted to spend unlimited sums to influence an election, so long as those sums were not actively solicited by the candidate, campaign, or party and there was no evidence of communication between those entities and the donor organization. Because 23 states had banned independent expenditures (IEs) by unions and/or corporations before the decision, those states were forced to roll those bans back.

The full implications of *Citizens United* are still being unraveled, but existing research suggests that the decision had the effect of pushing state legislatures farther to the right, particularly in those states that had had limits on corporate IEs before the Court ruled on the case. In 2010, Republican majorities in state legislative chambers increased from 37% of all states to 59%. This increase cannot be wholly attributed to *Citizens United*—the Tea Party, an economic recession, and the recent election of the first Black president were a few of the national forces that affected the Republican sweep in state legislatures and Congress. However, mounting evidence suggests that the decision increased the probability that a given state legislative district would be represented by a Republican by 6-7% (Harvey & Mattia, 2019; Klumpp et al., 2016). Furthermore, in states that were forced to roll back their independent expenditure restrictions, Republicans who had already been elected became more conservative than they had been before (Abdul-Razzak, 2020).

Gilens, Patterson, and Haines (2021) employ an approach of comparing states with restrictions on corporate and/or union independent expenditures (IEs) before *Citizens United* to states that did not have any such restrictions in place before the 2010 decision. The coauthors find that states affected by *Citizens* adopted “corporate-friendly” conservative financial policies, such as a reduced corporate income tax rate. However, the coauthors do not find evidence for a
conservative shift on issues that are more incidental to corporate profits; abortion laws and gun
control laws did not shift rightward consistently across all treated states. These findings indicate
the potential for corporations to use independent expenditures to secure certain policy “prizes”
from receptive politicians.

*Citizens United* was also uniquely advantageous for corporations’ sway over the policy
“terrain” relative to other outside actors. Corporations’ heightened attention to independent
expenditures stands in contrast to that of unions; *Citizens* also rolled back restrictions on
independent spending by unions, but the decision empowered corporations to make such
contributions to a greater extent than it did for unions. In the two election cycles (2006 and 2008)
before the 2010 decision, among states with bans on corporate and union IEs, unions outspent
corporations. In the next three cycles (2012, 2014, and 2016), the balance flipped—corporate IEs
dominated unions’ (Gilens et al., 2021). Across the board, IEs increased in 2010: by 127%
among states with prior restrictions, and by 48% in states that had never had any limits on
corporate or union spending. These findings indicate that business interests saw an opportunity in
the new institutional terrain created by *Citizens* and took that opportunity to maximize their say
over state policy via opaque spending.

**2.4. Democratic Backsliding Reshapes Policy Terrain**

*Citizens United* created new avenues that allowed corporations to forge allyships with
Republican legislators. In Hacker and Pierson’s *Let Them Eat Tweets* (2020), the coauthors
outline the Republican legislative strategy: pursue a radical economic agenda that benefits only
corporations and economic elites, and make incendiary appeals to their nearly all-white base that
draw the attention of the voters and the media. At the same time, Republicans have been working
to construct barriers to voting for low-income and Black and brown voters, who are more likely to vote for Democrats and oppose the kinds of economic policy that aggravate economic inequality (Jones & Polsky, 2021; Mitchell, David, et al., 2021). This essay draws from the assumption that corporations find allegiances with Republicans to be advantageous—corporate self-interest lies in precipitating economic policy that protects their profits, and Republican legislators are dedicated to ensuring that policy is enacted, regardless of public opinion. Corporations are therefore incentivized to oppose a broad, multicultural democracy, which would threaten the power of their Republican allies and reduce their sway over politics.

Hertel-Fernandez et al. (2019) find evidence that corporations do in fact influence lawmakers to disregard public opinion—those lawmakers who rely most heavily on information provided by conservative and business interest groups are the most out of touch with their constituents.

Rather than view Republican efforts at “democratic backsliding” as incidental to corporate interests, in this essay, I build on the theoretical framework outlined above to argue that Citizens United allowed business interests to not only shape policy that is advantageous to them, but to work with Republican lawmakers to constrict democracy so that their voices are prioritized over voters who might disagree with them. By empowering the Republicans, corporations are thereby able to ensure that the policy prize of conservative economic policies is insulated from would-be voters with opposing views, thereby creating a more secure policy terrain (Hacker & Pierson, 2014).

2.5. Favorable Climate Policy as Policy Prize

Thus far, I have outlined a political landscape in which corporate actors have allied themselves with the Republican party—more so than their public-facing contributions would

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have the public believe—and wielded independent expenditures to influence lawmakers to pass certain favorable policy prizes. In the pages that follow, I investigate climate policy as a particular policy prize that is made vulnerable to corporate manipulation due to a political terrain that benefits business and largely ignores the needs of low-income voters of color.

Aggressive climate policy is urgent in the United States—each wildfire season is more catastrophic than the last; coastal communities are inundated with flooding year-round, or have disappeared entirely in the case of some low-income parts of the South and Southeast\(^3\); and new vector-borne diseases are emerging all over the country, aided by increasingly warm and moist climates (Halofsky et al., 2020; Rocklöv & Dubrow, 2020). The United States is uniquely at fault for the crisis. Despite constituting only 4% of the world’s population, the US has emitted more greenhouse gasses over the course of history than any other country in the world (Evans, 2021). However, all efforts at passing a federal climate bill that strictly regulates corporations’ carbon emissions have failed, despite a bipartisan appetite for such regulation (Howe et al., 2021). In short, climate policy is the quintessential example of lawmakers’ refusal to cater to voters’ interests, even when the stakes are so high as to be existential.

With the International Panel on Climate Change’s 12-year deadline for drastic carbon reductions closing in\(^4\), states, cities, and municipalities are abandoning hopes in Congress and passing emissions-reducing legislation themselves. In fact, states’ climate policies are a major contributor to the overall emissions reductions the country made between 2005 and 2015 (Mohlin et al., 2019). States that made the most significant reductions in this period tended to be able to do so because of a decreased reliance on energy sources such as coal and oil and

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\(^3\) Cusick, “Climate Helped Turn These 5 Places into Ghost Towns”, *The Scientific American.*

\(^4\) In the International Panel on Climate Change’s 2018 Special Report on Global Warming of 1.5°C, the IPCC scientists established that the globe has 12 years—until 2030—to make drastic cuts to emissions, before global warming beyond 1.5°C above pre-industrial levels becomes irreversible. Warming beyond this point will be catastrophic, significantly worsening climate-related risks such as flooding, drought, and natural disaster for millions of people (IPCC, 2018).
increased dependence on renewable energy, particularly wind. Many of these states facilitate the
growth of their renewable energy sectors by passing renewable portfolio standards (RPS), which
mandate that a certain proportion of the state’s energy sector be derived from renewable sources.
Since the United States’ power sector was its largest source of emissions between 1990 and
2015, RPS policies, along with federal tax incentives and advances in renewable energy
technologies, were highly effective measures in decreasing overall emissions.

Today, 29 states have passed RPSs, and an additional eight have set voluntary RPS
“goals.” Not all of these policies are created equal; RPSs vary in the percentage of the electricity
sector that is derived from renewables, as well as the timeline for that percentage to come to
fruition. Ultimately, the mere presence of an RPS matters less than the design features of that
policy and the implementation scheme that policy-makers instate. Carley et al. (2017) find that a
number of factors influence the strength or “stringency” of a state’s RPS, including the
availability of the renewable resource (e.g., Texas and Iowa have a lot of wind year-round, while
Arizona and New Mexico see a lot of sun), economic factors such as the retail price of
electricity, and other market-based factors. Overall, states with stronger RPSs tend to have
greater renewable energy development.

Trachtman (2020) situates Carley’s RPS stringency measure within a broader
conversation in the field of political science about the factors that influence climate policy. The
“traditional climate federalist” approach that focuses on early state climate policies emphasizes
the bipartisanism of many of these policies as well as the co-benefits that the policies include for
state residents, such as cleaner air. However, Trachtman finds evidence for “polarized
federalism,” an alternate theory of state climate policy that cites the partisanship of the state
government as the deciding factor in the stringency of state climate policy. Trachtman examines
whether RPS stringency is affected by nonpartisan variables, such as wind and solar resources and state GDP and unemployment, as well as political factors, such as the partisanship of the electorate—the extent to which voters identify as Democrats versus Republicans—and party control of state government. He finds that the strongest effects on Carley et al.’s RPS stringency measure come from the political variables—partisanship of the electorate and party control of state government. In other words, the less Republican a state’s voters and legislators are, the more stringent its RPS policy, if it exists at all.

Today, the GOP is staunchly anti-climate policy. In the 2016 Republican Party Platform—which the party endorsed again in 2020, forgoing the promotion of any new set of policies—the Republican National Committee explicitly opposed any regulation of carbon emissions, and went so far as to discredit the United Nations’ Intergovernmental Panel on Climate Change as “politically motivated.” The Republican Party has not always been so opposed to climate policy. Before 2010, Republican icons such as Senator John McCain and South Carolina Congressman Bob Inglis were climate champions, and renewable policy was a bipartisan issue. However, between 2008 and 2011, Republican concern about the climate fell precipitously, as fossil fuel companies, empowered by Citizens United in 2010, were successfully able to sow doubt about the reality of the crisis through independent spending and lobbying (Stokes, 2020). Suddenly, Republicans were a united front in opposing climate policy. This position has proved highly lucrative for them—the more politicians vote against climate and environmental legislation, the more fossil fuel companies contribute to them (Goldberg et al., 2020).

As fossil fuel companies work to undermine the public’s trust in climate science, they also simultaneously thwart climate policies from passing and shape those policies to dull their
impact. Two case studies illustrate this complicated dynamic: the cap-and-trade fight in 2009 and 2010, and a proposed carbon tax called the Baker-Shultz plan that emerged in 2017. In the former example, polluting companies such as BP, Shell, Ford, and General Motors joined the United States Climate Action Partnership, a coalition of business and environmental groups that was pushing for a national cap-and-trade policy. As they instructed lawmakers on how to mold the bill as it made its way through Congress, many of those same companies provided resources to organizations that were working to stop the policy, such as the Chamber of Commerce and the American Coalition for Clean Coal Electricity. The cap-and-trade proposal—known as the Waxman-Markey Bill—ultimately died before it could make it to the Senate floor, but at that point the major polluters of USCAP had created so many loopholes and dulled its efficacy to such an extent that the bill was a hollowed version of its proposed self (Grumbach, 2015).

The second case study is the Baker-Shultz plan, a proposed carbon tax endorsed by a coalition of companies such as Exxon, BP, Ford, and J.P. Morgan Chase that is oriented around redistributing the revenue from the tax as “carbon dividends,” or direct cash payments to Americans. However, the plan also eliminates a slew of environmental regulations, only incrementally increases its price on carbon, and requires that fossil fuel companies be protected from litigation related to their role in advancing the climate crisis. In the summer of 2021, ExxonMobil was forced to withdraw from the plan’s membership when one of its lobbyists was caught on video admitting that Exxon’s endorsement of the plan was intended purely to improve its public image⁵. In both this case and the cap-and-trade bill, polluting industries worked to shape climate policy to be maximally favorable to them, even as they fought to uphold the status quo.

⁵ Egan, “Undercover Exxon video reveals an anti-climate campaign,” CNN.
The second major objective of this essay is to explore the impact of corporate independent expenditures on state renewable portfolio standards. This essay contributes to the literature on the primary political factors influencing RPSs (Trachtman, 2020; Stokes, 2020) by investigating dark money as a mechanism of corporate influence. Using Carley et al.’s RPS stringency measure (2017), I test whether states affected by *Citizens*—those states forced to roll back restrictions on corporate independent expenditures—experienced a decrease in the stringency of their RPS policies relative to states that were unaffected by the 2010 decision. The RPS thereby serves as the “prize” for polluting corporations—by using their dollar to support candidates who oppose strong RPS policies, they can ensure that their profits remain high and that fossil fuels can remain a primary resource for state energy.

3. **Data and Methods:**

3.1. **Dependent Variables**

The outcome variables of focus in this analysis are an index of state-level democracy from Grumbach (2021) and a measure of RPS stringency from Carley et al. (2018). The democracy index includes 61 indicators of democratic quality between 2000 and 2018. It draws from measures of both electoral democracy—the freeness and fairness of elections (e.g., gerrymandering, voter identification laws, and polling place wait times)—as well as liberal democracy—the protection of civil rights, especially for minorities, (e.g., incarceration rate, laws criminalizing forms of protest). To construct the index, Grumbach conducts a latent variable analysis on democracy to allow the observed relationship between each indicator within the index and the outcome to determine the weighting scheme of the index. This approach allows the data, rather than authorial assumptions, to guide the relationship between each indicator and the
overall score. The score numerically represents the overall democratic performance of a state, with positive values signifying more democratic states and negative scores representing less democratic ones.

Carley et al.’s RPS stringency measure (2018) measures the stringency (strength) of an RPS as the increase in renewable generation required by the policy divided by the number of years until that requirement must be met, and then multiplied by the proportion of a state’s electricity load covered by the standard. Unlike the Grumbach index, which covers the years 2000 through 2018, the RPS measure only extends until 2015, thereby excluding Virginia’s RPS, the one new state RPS policy that was implemented since 2015. Several states also increased the stringency of their RPS policies after the Carley et al. data ends; these amendments are not reflected in this study. The stringency measure accounts for the possibility that a state may have an RPS that requires less renewable-based energy than the state is already producing; in these cases, the stringency score is negative. However, since a negative stringency score is no less stringent than a state’s not having an RPS in place at all, the RPS values in these state-years have been recoded as zero, per the methodology of Trachtman (2020). RPS stringency values therefore range from a minimum of zero, for states without RPS policies or with formerly negative stringency scores, to a maximum of 132.3 for Hawaii, which in 2009 committed to deriving 40% of its energy from renewable sources by 2030, and has since adopted an even more stringent policy.

3.2. Empirical Strategy and Covariates

To test the impacts of *Citizens United* on state-level democracy and RPS policy stringency, I adopt the research design of Gilens, Patterson, and Haines (2021). Gilens et al. test
the differential impacts of the decision on “treated” states—states that had had restrictions on corporate independent spending in place prior to 2010 and were forced to revoke those restrictions—to “untreated” states that had never instated such limits, and were therefore less directly impacted by the ruling. Rather than a simple difference-in-differences (DID) research design, the coauthors implement the generalized synthetic control (GSC) method by Xu (2017), which, unlike DID, relaxes the assumption that control units (untreated states) would have demonstrated parallel trends to treated units (treated states), had the treatment (Citizens United) not occurred. The final result estimates the average treatment effect on the treated (ATT) across all the treated units. The GSC approach derives the treatment effect by creating a synthetic control unit for each treated unit that consists of a weighted average of the control units. Then, it matches pre-treatment covariates and outcomes to that synthetic control based on trends during the pre-treatment period. The treatment effect therefore describes the real-world outcomes among the treated units during the treatment period (post-Citizens United) compared to the predicted outcomes for those same units, according to their synthetic controls.

I adopt the same covariates and independent variable as Gilens et al (2021). The main independent variable in their study—and mine—is whether or not a state had restrictions on corporate IEs in place prior to Citizens United. Gilens et al. seek to create the best possible fit between treatment units by additionally including as covariates Republican vote share in the last presidential election, party control of state government, state GDP, state budget deficits, total number of large firms in the state, union membership as a share of the population, and the state unemployment rate. I include these covariates in both my analysis of state-level democracy and RPS stringency.
I also include additional covariates according to the findings of two papers—one that investigates the leading influences on the democracy index (Grumbach, 2021), and the second which examines factors that influence the RPS stringency measure (Trachtman, 2020).

Grumbach (2021) tests the correlation between the democracy index and measures of party competition, party polarization, unified Republican control of government, and the percent change in the Black and Latino populations relative to the previous year. He finds that only the last three variables are significantly associated with the outcome. Thus, for the democracy outcome, I add to the Gilens et al. covariates—which already include a measure of party control of government—percent change in Black and Latino populations relative to the preceding year. Trachtman (2020) tests the correlation between the RPS stringency measure and measures of party control of government, partisanship of the electorate, GDP per capita, tax revenue (per capita), wind energy potential, solar energy potential, air quality, unemployment, and electricity prices. Party control of government, partisanship of the electorate, GDP per capita, and electricity prices are significantly correlated with RPS stringency in the Trachtman study, so for my RPS stringency model, I add partisanship of the electorate and electricity prices to the Gilens et al. covariates, because party control of government and GDP per capita are already among Gilens et al.’s covariates. Appendix Table A1 lists all covariates included in this study and the sources of those covariates.
4. Results:

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<th>ATT</th>
<th>SE</th>
<th>p</th>
<th>ATT</th>
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<td>0.00</td>
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<td></td>
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<tr>
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Average Treatment Effect Across Treatment Period

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<td>2010-2017</td>
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4.1. Democracy Policy

See Table 1 for year-by-year results.

Figure 1 and the right side of Table 1 show the effects of *Citizens United* on state-level democracy by year for all states that had had restrictions in place that had banned at least corporations from making IE, if not unions and other entities in addition, and were forced to revoke those restriction. The pre-treatment period—all years before 2010—is represented in Figure 1 as all data to the left of the line at “year 0” (2010, when the Supreme Court decided *Citizens*). Figure 1 depicts the differences in democracy between the treated states and their synthetic controls. Notably, standard error in the pre-treatment period for the fit between treated states and their synthetic controls is negligible (average SE pre-treatment: .0067), signifying a
near-perfect match between treated states and synthetic control states, according to the covariates included in the model (Table A1).

The results provide strong support for the hypothesis that corporate dark money causes democratic backsliding across the 61 indicators included in the Grumbach index (2021). Figure 1 demonstrates the sharp decrease in democracy among treated states after Citizens United, and then a slight increase in democracy in 2014, though that increase does not return treated states, on average, to pre-2010 democratic levels. The final row of Table 1 depicts the average treatment effect of Citizens United on treated states (ATT) across the treatment period—the ATT was −0.58 (p < .01), indicating a 58% decrease in democracy among treated states, relative to untreated states, as a result of the 2010 decision.
4.2. RPS Stringency

**FIGURE 2**: Average Treatment Effect (ATT) of Citizens United on State RPS Policy

See Table 1 for year-by-year results.

Figure 2 and the left side of Table 2 show analogous results, but for the RPS stringency measure. Contrary to my hypothesis, I did not find evidence that state RPS policy stringency was significantly impacted by *Citizens United* and the influx of corporate IEs that came with it. Instead, the differences in RPS policy stringency remained largely consistent with their pre-treatment values, though the standard error (SE) appeared to increase significantly (Average SE = 6.83), indicating considerable uncertainty regarding this result (p = 0.82). Had the results aligned with my expectations, Figure 1 would depict a sharp decrease in RPS Stringency with minimal error, and the left side of Table 1 would demonstrate a significant (p <.05), negative result for the post-treatment period with respect to the pre-treatment period. However, covariate
results did align with expectations from Trachtman (2020); partisanship of the electorate, Republican vote share in the previous election, and electricity prices were all significantly correlated with RPS stringency (Table A1). Since the synthetic controls are well-matched to the treatment units, the pre-treatment period differences hover around zero, with minor errors.

5. Discussion:

The results outlined above provide support for my hypothesis that corporate dark money has the effect of reducing democracy in the states, as measured by Grumbach’s index of state-level democracy. This finding further bolsters the argument that corporate independent expenditures serve to insulate candidates from voters who oppose policies that benefit corporations. Figure A1 demonstrates that states that have consistently selected Republican candidates for President score more poorly on Grumbach’s index of democracy than states that have consistently selected Democratic candidates. This finding, reflected in Grumbach’s research (2021), indicates that Republicans are more likely to pursue antidemocratic agendas and thereby serve as stronger allies for corporations than democrats. Citizens United therefore created an opportunity for mutually beneficial allyship between Republicans and corporations—corporations give anonymously to Republican candidates, and those Republican candidates then seek to restrict democracy by passing laws that disproportionately bar low-income Black and brown people who are likely to vote for progressive candidates from voting. Thus, Citizens United allows corporations to reshape the policy terrain to their advantage and to these voters’ disadvantage.

The results with respect to RPS stringency contradict my expectations regarding the incentives for corporations to pursue the policy prize of more relaxed (or nonexistent) RPS
policies. However, they do not constitute a rejection of the argument that corporations oppose climate policy more broadly via their spending. RPS policies are retrospectively a poor choice for a study that focuses on *Citizens United*—per Figure 3, nearly every state that enacted a new RPS during the study period (2002-2015) did so prior to 2010. *Figure A2* suggests that, moreover, existing state RPS policies did not become any more stringent after 2010, on average, though Democratic states are more likely to have more stringent RPS policies overall than Republican states.

Corporations therefore did not have the incentive to make independent expenditures after *Citizens United* to shape proposed RPS policies, since new RPSs were largely absent from state legislative agendas. Rather, it is possible that polluting corporations such as the fossil fuel industry were instead incentivized to *maintain the status quo* by ensuring that existing RPSs are not made any more stringent and that legislators did not create new policies in states that did not have them to begin with. *Figure A3* demonstrates that, in line with this argument, Republican states on average did not increase the proportion of energy that must be derived from renewable sources after 2010, while Democratic states *did* continue to increase their renewable energy mandates\(^6\).

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\(^6\) The proportion of state electricity required to be derived from renewables is conceptually distinct from Carley et al.'s RPS policy stringency measure (2018), which also factors in the increase in renewable energy generation necessary to meet the standard and the number of years allotted to reach that benchmark. Thus, overall RPS stringency can remain flat (all states’ averages in Figure A2) even as the required proportion of renewable energy can increase (Democratic state average in Figure A3).
Corporate efforts to maintain the status quo on climate policy would not be reflected in the generalized synthetic control method, which analyzes changes in RPS stringency, but it is implied in existing literature and my findings regarding the disconnect between public opinion on RPS policies and legislative (in)action on them. Chapman (2020) finds that state-level responses to climate change are correlated with which party is in power—Democratic governors are associated with more aggressive climate action, whereas when Republican governors are in office, the state is less likely to act on climate change—as well as campaign contributions from the energy sector, which make climate policy less likely with every dollar spent. He finds no significant correlation between public opinion and climate policy.

Investigating this discrepancy further, I use state-level opinion data from the Cooperative Congressional Election Study (CCES) for 2014, the last full year in the RPS data versus the RPS stringency measure (Carley et al., 2017) to determine whether the number of years of “unified Republican control”—when Republicans control state government at all levels (State House, Senate, and Governorship)—is associated with a gap between public appetite for an RPS and the actual stringency or existence of that RPS (Figure A4; Schaffner & Ansolabehere, 2015). The negative slope of the red regression line suggests that, in states where Republicans had complete control of state government for more than a year between 2000 and 2014, those states are more likely to have RPS policies that are out of step with public opinion, or not have RPS policies at all. On the other hand, among states that have experienced only one year or less of unified Republican control between 2000 and 2014, the governments of those states are more likely to enact RPS policies in accordance with their constituents’ preferences. The allyship between corporations and Republicans is therefore resistant to public opinion—GOP legislators are more willing to ignore their constituents and maintain the status quo, in line with corporate
preferences, than cater to constituents and oppose those preferences. Further research is necessary to establish a causal relationship between corporate spending and status quo RPS policy, but these findings suggest that corporate influence on RPS policies serves to fix the status quo, rather than actively worsen existing policy.

6. **Conclusion:**

The results of this study suggest two major implications regarding the role that corporations play in guiding politics through dark money contributions. The first finding is that corporate independent expenditures make democratic participation less accessible (e.g., absentee voting, polling place wait times), bias the institutional framework of democracy toward Republican voters (e.g., gerrymandering), and weaken liberal democratic quality (e.g., protections against compelling reporters to disclose sources, criminalization of forms of protest). This democratic backsliding disproportionately prevents low-income Black and brown people from voting. This finding lends itself to the broader argument that corporate interests see their political objectives as diametrically opposed to the interests of those underserved voters and will wield their financial resources to reshape the democratic landscape such that it excludes low-income Black and brown voters. Furthermore, it casts doubt on the authenticity of corporations’ public declarations of support for voting rights, such as a letter signed by over 150 major corporations earlier this year opposing “discriminatory legislation” barring people from voting⁷.

Secondly, I do not find evidence that the influx of corporate independent expenditures due to *Citizens United* significantly changed the stringency of renewable portfolio standards

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(RPSs) in states affected by the 2010 decision. However, this finding does not imply that corporate spending did not play a role in guiding the trajectory of RPS policies. In fact, corporate independent expenditures may very well serve to ensure that RPS policies do not change; instead, corporations may use their financially-motivated allegiances with Republican legislators to ensure that RPS policies do not become more stringent or are not signed into law at all, in states that do not already have them in place. This implication is supported by the findings that, first, Republican states typically have less stringent RPS policies, if any (Figure A2); second, that Republican states with RPS policies have not increased the proportion of energy mandated to be derived from renewable sources even as Democratic states have increased their renewable energy commitments (Figure A3); and third, that states that have had wholly Republican-controlled governments for even as little as 2 years will maintain the status quo on renewable energy, even if their electorates prefer an increased commitment to renewables (Figure A4). Further research is needed to expose the role that corporations play in propelling Republicans’ refusal to produce meaningful renewable energy policy, but the very fact that Republicans will deny the preferences of broad majorities of their own constituents indicates that they are ideal allies for polluting corporations.

Future research should continue to explore the ways in which corporate dark money spending serves to shape climate and democracy policy. Other climate policies, such as distributed generation policies or carbon pricing schemes, may serve as focal points in these analyses, as they may exhibit more variation in the post-Citizens United era. Additionally, the connection between democracy policy and climate policy must be further examined. If constricting democracy is a mechanism by which polluting corporations may manipulate the legislative terrain, there may be greater levels of spending by fossil fuel companies and other
industries opposed to climate policy in areas where progressive or low-income Black and brown voters are projected to play a decisive role in an upcoming election. This spending may serve to ward off the “threat” posed by these voters by safeguarding Republican seats. This study finds evidence for a connection between democracy policy and climate policy—if corporate dark money spending weakens democracy and maintains a status quo that wreaks havoc on the climate, it is plausible that this democratic backsliding is intentional, serving to further fortify a business-as-usual economy. The right to vote is therefore inextricably linked to climate policy.
## Appendix

<table>
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<th>Covariates/Controls</th>
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<td></td>
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<td>- Tort laws</td>
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<td>- Eminent domain laws</td>
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<td>- Abortion laws</td>
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<td>1. Republican vote share in the last presidential election</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Party control of state government</td>
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<tr>
<td></td>
<td></td>
<td>3. State GDP</td>
<td></td>
</tr>
<tr>
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<td></td>
<td>4. State budget deficits</td>
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</tr>
<tr>
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<td></td>
<td>5. Total number of large firms in the state</td>
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<tr>
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<td></td>
<td>6. Union membership as a share of the population</td>
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<tr>
<td></td>
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<td>7. State unemployment rate</td>
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<td>1. Unified Republican control of government</td>
<td>1. Partisanship of the electorate</td>
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<td>2. Electricity prices</td>
</tr>
<tr>
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<td>3. Partisanship of the electorate</td>
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<td>4. GDP per capita</td>
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<td>5. Tax revenue (per capita)</td>
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<td></td>
<td>6. Wind energy potential</td>
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<td>Percent change in the Latino population relative to the previous year*</td>
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<tr>
<td></td>
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Note: *p < .1 **p < .05 ***p < .01. Based on the generalized synthetic control method using interactive fixed effects model. See Table 1.

Note: Figure presents the average democracy index score (Grumbach, 2021) for states that have only voted for a Democratic presidential candidate, states that have only voted for a Republican presidential candidate, and states that have swung between Republican and Democratic candidates for President between 2000 and 2016. Each point represents a different state. The dotted lines indicate the averages for all states within each of the three groupings of presidential choice.
FIGURE A2: RPS Stringency in States According to Presidential Choice 2000-2016

Note: Figure presents the average RPS stringency score (Carley et al., 2017) for states that have only voted for a Democratic presidential candidate, states that have only voted for a Republican presidential candidate, and states that have swung between Republican and Democratic candidates for President between 2000 and 2016. Each point represents a different state. The dotted lines indicate the averages for all states within each of the three groupings of presidential choice.

Note: Figure presents the average percent of electricity that must be derived from renewable sources (Berkeley Lab, 2021) for states that have only voted for a Democratic presidential candidate, states that have only voted for a Republican presidential candidate, and states that have swung between Republican and Democratic candidates for President between 2000 and 2016. Each point represents a different state. The dotted lines indicate the averages for all states within each of the three groupings of presidential choice.
FIGURE A4: Public Opinion on RPS Policies by State in 2014, Grouped by Number of Years Republicans Controlled All Levels of State Government Between 2000 and 2014

Note: Figure presents, on the x-axis, public opinion on an RPS policy for the respondent’s state, on a scale between 0 and 1 (CCES, 2014), and on the y-axis the RPS stringency score (Carley et al., 2017) for each state (points). Points have been grouped by states that had been under unified Republican control—Republicans controlled the state house, state senate, and governorship for 2-3 years—between 2000 and 2014, and states that were under unified Republican control for 1 year or less during the same period. The dotted lines indicate the line of best fit for the states within each of the two groupings of Republican control of government. X-axis has been truncated to fit points.
Works Cited


https://doi.org/10.1038/s41560-018-0202-4.


https://doi.org/10.1515/for-2020-2001

Cusick, Daniel. “Climate Helped Turn These 5 Places into Ghost Towns.” Scientific American, Scientific American, 30 Oct. 2020,

https://www.scientificamerican.com/article/climate-helped-turn-these-5-places-into-ghost-towns/

“Dark Money Basics.” OpenSecrets, 31 Aug. 2021,


https://www.proquest.com/scholarly-journals/republican-2016-party-platform/docview/1878088485/se-2?accountid=15172

Egan, Matt. “Undercover Exxon Video Reveals an Anti-Climate Campaign.” CNN, Cable News Network, 1 July 2021,


