

# Think Globally, Act Locally: The Determinants of Local Policymakers' Support for Climate Policy

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## Abstract

Although much progress to combat climate change has occurred subnationally, little research examines the policy preferences of local policymakers themselves and whether policymaker and public preferences are contradictory or compatible. To address these questions, we conduct identical conjoint experiments on over 500 local policymakers and the American public. Per our theoretical expectations, we demonstrate the probability of policy adoption can be increased by strategic design. Most notably, climate-related subsidies and regulations are preferred over taxes and penalties, suggesting efforts to put a price on carbon may not be the optimal approach. Partisan endorsements of climate plans also have a large effect—greater in some cases than substantive policy design—consistent with increasing polarization. While direct economic relief to the public is popular, it does not increase support for bolder climate policies. Finally, elite and public preferences are highly compatible, which is a positive signal about the representativeness of American democracy.<sup>1</sup>

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<sup>1</sup>This study was pre-registered with OSF and was granted exempted status by the Institutional Review Board of the authors' university.

Given the uneven nature of progress at the national level to combat climate change,<sup>2</sup> local environmental initiatives have taken on increased importance. For example, while the federal government under the leadership of President Trump withdrew from the Paris Climate Agreement, over 400 mayors subsequently committed to upholding its emissions targets. This “We Are Still In” campaign includes cities and states with a combined GDP of over 9 *trillion* dollars and representing over 150 million Americans. As Salt Lake City Mayor Jackie Biskupski said, “We must lead where the White House refuses to” (Daalder, 2017). Similarly, President Barack Obama said that “the determination of our state and local governments...allowed our country to move forward despite hostility from the [Trump] White House [towards the Paris Agreement]” (Zak, 2021). Thousands of cities and towns have also joined international initiatives—such as the ICLEI Local Governments for Sustainability—and developed their own Climate Action Plans to reduce greenhouse gas emissions (Betsill and Bulkeley, 2004). Many of these plans set highly ambitious climate goals, such as carbon neutrality. Consequently, although the traditional assumption has been that local governments focus on non-partisan issues such as roads rather than politicized ones such as climate change, this hypothesis is increasingly being challenged by scholars (e.g., de Benedictis-Kessner and Warshaw, 2020) and progress on climate change has actually been a more bottom-up phenomenon compared to other policy issues (Pulver, Rabe and Stoett, 2009).

What factors impact whether local policymakers decide to support climate plans, and do policymakers and the public have compatible or contradictory preferences? Answering these two questions is crucial for the future of environmental initiatives for two broad reasons. First, policymaker preferences are intrinsically meaningful because they are the decision-makers directly choosing whether to support or oppose local climate initiatives (Freire, Mignozzetti and Skarbek, 2021). Even when there is broad support among the public for certain policies—such as universal background checks for gun purchases—a lack of policymaker support can prevent these policies from being enacted or from enduring in the long-term. Although previous studies have analyzed the American and global

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<sup>2</sup>The 2022 Inflation Reduction Act being a notable exception.

*public's* views on climate change policy,<sup>3</sup> there has been much less research on the views of local *policymakers* themselves despite the substantive significance of their preferences. The small number of studies that do survey local policymakers on environmental issues provide valuable insights, but are often focused on descriptive rather than causal relationships (e.g., Bae and Feiock, 2013; Einstein, Glick and Palmer, 2020; Lee and Stecula, 2021), or utilize state-specific or region-specific samples rather than national samples of local policymakers (e.g., Gerber, 2013).

Beginning with the well-founded assumption that policymakers will prioritize reelection above other factors (e.g., Mayhew, 1974), and drawing from prior work on policy feedback (Campbell, 2012) and the *public's* views towards specific policies, we developed a set of pre-registered hypotheses about how climate policy design would impact the attitudes of policymakers. Although increasing polarization likely reduces the relative impact that substantive policy design has on attitudes (Hacker and Pierson, 2019), we expect that partisan signaling about which political party or parties a climate plan is associated with is not the only factor that matters (though we indeed expect it to be a highly influential factor). Instead, various salient *design-based* factors, such as the visibility of benefits and costs to constituents (e.g., Mettler, 2011), should determine exactly how different policy designs impact attitudes. The question we analyze is therefore not *whether* policy design matters, but exactly *how* it matters.

Second, policymaker climate change preferences are also important *relative* to public preferences. If policymakers and the public hold contradictory views on the optimal structure of climate plans, then that makes it more difficult to design environmental policies with broad political support among elites *and* the public. This, in turn, increases the chances that such efforts will fail. Wildly divergent views between elites and the public would also raise questions about democratic accountability and representativeness on this significant issue (Broockman and Skovron, 2018; Sheffer et al., 2018). The presence or lack thereof of elite-public gaps is contested in the literature (e.g., Dellmuth et al., 2019;

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<sup>3</sup>See Bechtel and Scheve (2013); Bernauer and Gampfer (2015); Drews and van den Bergh (2016); Egan and Mullin (2017); Bergquist, Mildemberger and Stokes (2020).

Kertzer, 2020), and the potential existence of an elite-public gap in the realm of climate change is particularly understudied (but see Hertel-Fernandez, Mildemberger and Stokes (2019) and Lee et al. (2021)). Given policymakers' political incentives to be responsive to public opinion, as well as the impact elite cues can have on the public (Broockman and Butler, 2017; Guisinger and Saunders, 2017), we pre-registered an expectation that policymaker and public preferences would, on average, tend towards compatibility rather than contradiction. Additionally, because of the salience of climate change as an issue, we expect compatibility is especially likely in this context since policymakers have relatively high political incentives to be attuned to public views on climate policy.

To address these important and previously unaddressed questions, we draw on two sources of data. First, we leverage a national sample of local policymakers that includes mayors, county executives, and council members from across the US (Malhotra, Monin and Tomz, 2019; Lee et al., 2021; Lee and Stecula, 2021). Specifically, we conducted a pre-registered conjoint experiment on over 500 local policymakers that randomly varied seven attributes of a climate plan. We utilize a conjoint design because it allows us to simultaneously vary many attributes at once, better representing the multiple tradeoffs policymakers face in choosing between complex policy instruments in the real world. Moreover, recent work on policy design highlights the benefits of better understanding “policy mixes,” or bundles of policies within a common domain, such as climate policy (Howlett, 2019). The seven attributes we experimentally manipulate are theoretically motivated and fall into three broad categories: specific policies, politically-relevant endorsements and participants, and structural characteristics. The specific policies relate to taxes, energy efficiency standards, and economic relief. The politically-relevant factors include domestic partisan endorsements of the climate plan and international participants in the plan. The structural characteristics involve the time to implementation and a cost-benefit projection of the climate initiative. Our elite experiment, which is relatively rare in political science research (Kertzer, 2020), allows us to causally identify the effects of these different factors on support for climate initiatives among local policymakers. The second source of data we draw on is a nationally representative sample of over 1,000

members of the US public. The design of this study is substantively identical to the design of our policymaker experiment, which enables us to analyze whether there are large elite-public gaps in climate change policy preferences.

Overall, the results of our experiment illuminate *how* policy design impacts local policymaker support for climate plans. Here, we highlight the subset of our findings that we believe are the most significant. Per our pre-registered hypotheses, plans with more hidden costs (such as tax subsidies or regulations) are favored compared to plans that impose more visible costs (such as taxes and penalties), and including policies with visible benefits (such as economic compensation to defray the costs of climate policy) is popular. Contrary to our pre-registered expectations, economic compensation does not increase support for bolder policy action, universal compensation does not increase support relative to targeted compensation, and there is an effect whereby plans endorsed only by the Democratic Party backfire and are less likely to be supported than policies endorsed by neither party.<sup>4</sup> The impact of partisan endorsements is generally larger among policymakers than the public, which contributes to debates about elite versus public polarization and is in line with recent findings that elites are actually more polarized than the public (e.g., [Enders, 2021](#)). Moreover, in a sign of the impact of polarization and the strength of partisan signaling, we find that partisan climate plans endorsed by only the Democratic Party actually reduce support among policymakers more than policies such as taxes and penalties that impose highly visible costs on constituents. More optimistically, the positive impact of substantive policies such as tax benefits is not statistically different from the positive impact of bipartisan endorsement.<sup>5</sup>

Critically, we also find that the preferences of policymakers and the mass public are largely compatible. None of the marginal means we estimate differ in sign (i.e., whether the factor increases or decreases support for the climate plan) between policymakers and the public, and over 75% do not significantly differ in size. Still, some caution in

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<sup>4</sup>We expected the latter finding to hold only among Republican respondents, but not among our full sample.

<sup>5</sup>These latter two analyses were not pre-registered.

interpreting these results is warranted, as we are unable to directly match policymakers with their constituents due to an ethical need to maintain policymakers' anonymity.

Although national polarization over climate change suggests hope for progress is fleeting, our findings demonstrate the chances of policy adoption and longevity can be raised if environmental policies are optimally designed across a range of different dimensions to maximize support. While other barriers remain to progress, these findings are heartening compared to if the opposite dynamics held.

To summarize, this project makes several contributions to the literature on climate politics and environmental policy, which spans multiple disciplines and all of the subfields of political science. First, we examine a substantively important and relatively understudied group of actors—local policymakers—whose decisions significantly impact the chances of climate progress. Second, the method we utilize—an elite experiment conducted on local policymakers—is rare in political science, but sheds light on the causal impact climate plan attributes have on policymaker support. Third, by pairing our elite experiment with a replication on the mass public, we are able to assess whether elite-public gaps exist on this issue. This is a contested question in the literature, but one that is relevant for the future of climate progress and the representativeness of American democracy. Fourth, our findings will inform activists about what policies they should advocate for in order to achieve their goals, the public about what types of climate change policies their local officials are willing to support, and policymakers themselves about what their constituents want and the kinds of climate policies they can successfully pursue with their colleagues. While climate change is global, our study provides a framework for how the probability of policy adoption at the local level can be increased by strategic design.

## **Theory: Climate Plan Design and Support**

How will climate policy attributes impact the willingness of local policymakers to adopt environmental plans? To address this question, our foundational assumption is that policymakers will prioritize reelection and political considerations above other factors (e.g., [Mayhew, 1974](#)). From this starting point, we generate theoretical expectations

about specific climate change policy attributes based on two sources. First, and more specifically, we utilize prior studies that have been conducted on the *public* to assess the impact of climate policy design on attitudes. Since elected policymakers—even at the local level—have political incentives to align their views with public opinion, we expect that studies on the mass public can shed light on what policy designs policymakers will likely favor as well.

Second, and more generally, we draw from the literature on policy feedback and public policy. The strain of this research that is most applicable to the current study assesses the effect of policy design on public attitudes towards that policy. Particularly relevant are findings that policies with more visible benefits and benefits that are distributed more widely are likely to garner greater public support, while policies with more visible costs and benefits that are concentrated to particular groups are less likely to be supported (Campbell, 2012).<sup>6</sup> The problem, for example, with benefits that are not visible (e.g., the home mortgage interest deduction) is that they “leave much of the public, even beneficiaries themselves, unaware of government’s role,” which makes the public less likely to support the government program (Mettler, 2011, pg. 32). On the other hand, government policies with visible costs (e.g., taxes) leave the public all too aware of who to blame. Thus, even if there are no studies on public opinion towards the *specific* climate change policy attributes this paper focuses on, we are still able to generate hypotheses for policymakers by considering the likely public response to the policies based on the visibility and distribution of their costs and benefits.

There are, of course, nearly an infinite number of attributes associated with climate plans that could be studied. We focus on three different categories of attributes that we believe are particularly salient and important: (1) specific policies, (2) politically-relevant endorsements and participants, and (3) structural characteristics. From these categories, we derive seven attributes of climate plans and theorize how they impact support for the plan. We choose *ideal type* attributes that are broad enough to be relevant to local policymakers and members of the general public across the US in both big and small cities

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<sup>6</sup>A full review of the relevant policy feedback literature is beyond the scope of this work. For a recent overview, see Siddiki (2020).

and towns. Brutger et al. (2022) establish that a more abstract experimental design better enables researchers to identify whether an effect exists, which is the primary goal of our study. Though increasing contextual detail and nuance (e.g., exactly how much taxes would be raised) in our theory and design is certainly an avenue for future research, Brutger et al. (2022) also show that doing so does not typically result in substantively different results.<sup>7</sup> This means our theory and findings for relatively general and abstract climate attributes are likely to be externally valid. The seven attributes and their different levels are summarized in Table 1, and we now proceed to discuss each in more detail.

**Table 1: Climate Plan Attributes**

Attribute	Levels
Type of Property Tax	Benefits for clean/efficient energy use Penalties for exceeding a certain carbon budget A general tax increase to fund clean/efficient energy projects
Higher Energy Efficiency Standards For	Newly constructed government buildings All new construction All new construction and existing buildings
Economic Relief	None Provided to all constituents Provided to constituents hurt by the policy
Party Endorsement	No party endorsements Democratic Party Republican and Democratic Party
International Participants	Neither cities in China nor NATO countries Cities in China but not in NATO countries Cities in NATO countries but not in China
Policy Begins In	2 Years 4 Years 6 Years
Cost-benefit Projection	Low short-term costs; high long-term benefits Low short-term costs; low long-term benefits High short-term cost; high long-term benefits

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<sup>7</sup>It does dampen effect sizes to some extent due to a lower ability to recall the treatment.



## Specific Policies

The first category of attributes we consider is substantive climate-related policies. Actual policies are at the heart of any climate plan and thus essential to study.

### Property Tax Instruments

We analyze support for environmentally-relevant property taxes because tax instruments are one of the principal tools that have been implemented and advocated for as a solution to climate change (Mildenberger et al., 2022). However, disagreement remains among scholars, activists, and policymakers about what specific *type* of tax instruments should be pursued. Since both Pigovian taxes and subsidies can potentially bring about the socially optimal level of greenhouse gas emissions by either putting a “price” on carbon (via taxes or penalties) or rewarding actors for using clean sources of energy (via subsidies), the optimal policy to push for may be the one with greater support. The different levels of this attribute will enable us to test exactly this: whether local policymakers are more supportive of environmental taxes or subsidies.

Our pre-registered hypothesis was that policymakers should prefer climate plans with subsidies compared to plans with taxes or penalties. Prior work shows that public policies with more visible benefits and less visible costs are generally more popular among the mass public (Kahneman, 1979; Mettler, 2005). Although subsidies delivered via the tax code (e.g., Affordable Care Act health insurance subsidies) *theoretically* provide clear benefits to members of the public in the form of lower taxes, their benefits are actually relatively hidden, especially compared to programs that provide cash benefits like Social Security (Mettler, 2011). Nevertheless, tax subsidies provide one significant advantage over tax increases: the costs they impose on the public are much less visible. For example, any costs subsidies entail in terms of lowered government revenue or increased borrowing are more obscure and easily hidden by policymakers (Jagers and Hammar, 2009). This logic helps explain why previous literature finds the *public* generally prefers subsidies to taxes and specifically prefers environmental subsidies to environmental taxes (Jagers and Hammar, 2009; Cherry, Kallbekken and Kroll, 2012; Drews and van den Bergh, 2016).

Given their political incentives to align with public opinion, we expect that policymakers will also be more likely to prefer subsidies over taxes and penalties. Instead of penalizing their constituents with taxes, they can reward them for good environmental behavior with subsidies.

We focus on property taxes specifically because this is the largest single source of tax revenue directly collected by local governments.<sup>8</sup> Many local governments also offer property tax subsidies for clean and efficient energy use and some are experimenting with taxes as well. For instance, nine counties in the Bay Area, California; Orange County in North Carolina; and Iowa City, Iowa all increased property taxes in recent years specifically to address climate change. Some local governments are even implementing penalties for carbon use. For example, the city of Boulder in Colorado adopted a carbon tax on electricity use, and Aspen and Pitkin counties in Colorado charge homeowners with energy-intensive amenities (e.g., heated pools and snowmelt driveways) a fee if they exceed a certain carbon budget.<sup>9</sup> Consequently, this attribute is realistic and reflects the types of policies local leaders could consider adopting.

## **Energy Efficiency Standards**

We study energy efficiency standards because regulations are another foundational policy tool that governments can employ to combat climate change. Instead of incentivizing good behavior through the use of economic carrots (subsidies) or sticks (taxes or penalties), governments can adopt a command-and-control approach and impose more direct limitations to combat climate change. Energy efficiency standards in buildings are an especially significant factor to study given that residential energy usage alone accounts for about 20% of greenhouse gas emissions in the US ([Goldstein, Gounaridis and Newell, 2020](#)). But are policymakers willing to support bold regulations that can make a substantial difference in the fight against climate change?

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<sup>8</sup>See statistics collected by the [Tax Policy Center](#).

<sup>9</sup>While carbon penalties are not always implemented via property taxes, they can be in principle and doing so here enables us to hold constant the vehicle for implementation.

Our pre-registered hypothesis was that policymakers should generally prefer plans with less ambitious climate regulations. Given that the costs of energy efficiency regulations that target people’s own houses should be quite visible to the mass public relative to regulations that solely involve government buildings, we expect that policymakers on average—especially Republicans and independents—will have incentives to avoid imposing those costs on their constituents. Nevertheless, we also pre-registered an expectation that the opposite would hold true among policymakers with a greater level of concern about climate change (e.g., Democrats). Though climate regulations entail clear costs, they also involve a relatively visible benefit: command-and-control regulations *guarantee* some improvement in terms of clean and efficient energy use by forcing actors to behave a certain way (Krosnick et al., 2006). Consequently, for members of the public that are concerned about climate change, the benefits of climate regulations may outweigh the costs, giving like-minded policymakers that rely on the support of those citizens electoral incentives to support regulations as well. Our expectations with respect to this attribute therefore incorporate insights about cost, visibility, and certainty of benefits.

Energy efficiency standards are particularly relevant to *local* climate policy-making because local governments typically have control over building codes. This means that energy efficiency standards are a domain where local governments can have a significant impact, making the inclusion of this attribute in our study realistic (Bae and Feiock, 2013; Gerber, 2013).

### **Economic Relief**

We also explore the impact of providing economic relief to constituents because climate advocates and scholars have posited that such relief can help defray the short-term costs of environmental policies and thus increase support for climate action (Bergquist, Mildenerger and Stokes, 2020; Gaikwad, Genovese and Tingley, 2022), as well as the importance of perceived fairness in designing climate plans (e.g., Bechtel and Scheve, 2013). Studying this attribute can also shed light on two major arguments in the policy feedback literature: that policies with visible benefits should garner greater support and that policies with universal benefits will be more popular than those with more targeted

benefits.

We pre-registered a hypothesis that local policymakers will generally be in favor of plans with economic compensation. Following work in the policy feedback literature, which shows that visible cash benefits from the government such as Social Security checks can increase public support for policies (Campbell, 2003), we expect that local policymakers will support economic compensation to defray the costs of climate policies to constituents and, in turn, reduce the chances of political blowback. This logic explains why several studies have analyzed the impact of economic relief and found that members of the public (Bergquist, Mildemberger and Stokes, 2020; Gaikwad, Genovese and Tingley, 2022) and possibly members of Congress (Kono, 2020) are more likely to support climate policies when they include some element of economic relief. Relatedly, we also pre-registered an expectation that economic relief would make policymakers more willing to support bolder policies by reducing the salience of those policies' costs and providing political cover to support more ambitious policies elsewhere in the plan.

Finally, we also pre-registered a hypothesis that support for universal economic relief to all constituents would be greater among policymakers than more targeted economic relief to those hurt by the climate plan. This expectation derived from arguments and findings that universal programs such as Social Security that distribute visible benefits to all have greater positive feedback effects than means-tested programs that are more targeted (Campbell, 2003).

## **Politically-Relevant Endorsements and Participants**

The second broad category we analyze concerns politically-relevant endorsements and participants. An essential element of politics is coalition-building, which makes it critical to understand the actors that must be won over to pass climate policies. Who must be part of the coalition in favor of a climate plan for it to obtain support among local policymakers?

## National Party Endorsements

We include this attribute in our study because despite the maxim that “all politics is local,” in recent years local politics has become increasingly nationalized (Hopkins, 2018), meaning that national party endorsements may be particularly salient factors affecting local policymaker support for a climate plan. National party endorsements—or the lack thereof—may also provide a useful signal to local policymakers about how supporting a climate plan will impact their prospects for re-election to their current office or election to higher office in the future. Following previous studies that find that the public is more likely to support climate plans that have bipartisan support (Bergquist, Mildenerger and Stokes, 2020), we expect the same will hold among local policymakers. If both parties support a climate plan, then that makes it less likely that a local policymaker’s support for a climate plan can be used against them as a political weapon.

We also pre-registered a hypothesis that among Republican policymakers, plans with no party support will be more popular than plans with only Democratic Party support.<sup>10</sup> Given increasing polarization, Republican policymakers may worry that supporting plans endorsed by only the Democratic Party will be unpopular among their political base. Some evidence for this dynamic exists. For example, in an observational and experimental analysis, Merkley and Stecula (2021) find that Democratic elite cues in favor of climate action increase climate skepticism among Republican members of the public due to polarizing party cues communicated through the news media. Guisinger and Saunders (2017) find evidence of a similar dynamic in a wide-ranging analysis of elite cues on international relations issues. If this dynamic holds among local policymakers, then that would have important implications for how climate activists and local policymakers themselves should think about how to build coalitions for environmental

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<sup>10</sup>Climate plans with no *national* party endorsements could still be pursued by *local* policymakers. Though party endorsements are critical to policy adoption at the federal level, they are less important at the local level, where many elections are explicitly non-partisan, though they may still be pursued by local policymakers as informative signals for the public.

action.

## International Participants

We also test the impact of foreign cities participating in a climate plan since climate change is a global problem and action by only the US will be insufficient to fully address the issue. Nevertheless, there is a debate in the literature about whether reciprocity by foreign countries significantly impacts support for domestic climate action. On the one hand, research by [Tingley and Tomz \(2014\)](#) finds that reciprocity is not a significant factor impacting public support for climate policy, as most members of the public believe environmental action at home should not depend on the level of action abroad. On the other hand, some studies that find greater international participation in climate initiatives increases public support for climate plans (e.g., [Bechtel and Scheve, 2013](#)). One reason is because a lack of reciprocity can make people believe their efforts are being taken advantage of by foreign countries. Following this logic, we pre-registered an expectation that plans with international participation should increase policymaker support.

Our research design also allows us to examine whether participation by cities in in-group countries, such as NATO members, matter more or less than participation by cities in out-group countries, such as China. From one perspective, cues from in-group countries may send a stronger signal about a policy’s appropriateness and necessity than cues from out-group countries (e.g., [Duque, 2018](#)). Nevertheless, support for climate action may actually be higher when Chinese cities participate if policymakers fear environmental policy adopted by the US and NATO countries—but not China—will erode America’s relative economic competitiveness. We pre-registered both of these possibilities given the competing logics.

Given the proliferation of international climate agreements between cities and other localities—such as the ICLEI Local Governments for Sustainability Program, which comprises over 2,500 local and regional governments in more than 125 countries, including China—this is a realistic factor that might impact support for climate initiatives ([Betsill and Bulkeley, 2004](#)). For example, in a 2021 [call for participation](#) in the “Race to Zero” Campaign that was directly targeted to mayors, the participation of cities *around*

*the world* was emphasized to encourage participation. Of course, this is not to say that international climate cooperation between cities typically involves reciprocal adoption of *identical* climate plans and policies. Nonetheless, participants in ICLEI’s Cities for Climate Protection Program and the “Race to Zero” campaign do have to commit to taking specific steps. For example, participants in the CCP Program commit to conducting a local emissions inventory, adopting an emissions target, developing a plan to meet the target, and then implementing the plan. Thus, a future international initiative that involves local governments committing to adopt more specific policies to combat climate change (such as tax subsidies or greater energy efficiency standards) but that are still general enough to be adapted to local conditions is plausible.

## **Structural Characteristics**

The final broad category we analyze involves structural elements of climate plans. These kinds of institutional design elements have been shown to be critical factors impacting support for and the effectiveness of policy regimes and institutions ([Bechtel and Scheve, 2013](#)).

## **Time to Implementation**

We first analyze the impact of different timelines to policy implementation. Given the urgent necessity of climate action to stave off catastrophic global warming, the willingness of policymakers to act rapidly as opposed kicking the can down the road is critically important. However, the “time-inconsistency” problem associated with climate change, whereby investing in reducing greenhouse gas emissions today may not fully pay off for many generations, incentivizes the current generation to under-invest in climate action (e.g., [Hovi, Sprinz and Underdal, 2009](#)). This is exacerbated by the fact that climate change is still often depicted as a problem with consequences distant in time ([Brugger et al., 2015](#)) and, most importantly, the public has been shown to discount the future ([Jacobs and Matthews, 2012](#)). Empirical work similarly suggests that the public specifically prefers some level of delay with respect to implementing certain climate policies

(Rinscheid, Pianta and Weber, 2020). Drawing on these insights from prior work, we pre-registered an expectation that policymakers therefore have political incentives to eschew climate action in the short-term, though we also hypothesized that policymakers with greater concern about climate change (e.g., Democrats) would be willing to implement policies sooner. The theoretical rationale for this latter expectation is that from an objective, scientific point of view, delaying action is quite harmful for climate change mitigation efforts, and this argument has been prominently and publicly made by bodies such as the Intergovernmental Panel on Climate Change (Rinscheid, Pianta and Weber, 2020).

### Cost-Benefit Analysis

The last attribute we include is an estimate of the plan’s short-term costs *and* long-term benefits. Unsurprisingly, a plethora of studies find that climate plans with higher costs are less likely to be supported by members of the public (Bechtel and Scheve, 2013; Bernauer and Gampfer, 2015; Bergquist, Mildenerger and Stokes, 2020). However, the key question we examine is not whether local policymakers are less likely to support plans with higher costs and more likely to support plans with greater benefits—undoubtedly they are—but whether they are willing or unwilling to *trade off* higher short-term costs for higher long-term benefits.<sup>11</sup> Previous studies often examine the benefits and costs of climate action in isolation, but they are not independent and thus it is essential to consider them in combination.

Given previous findings in the policy feedback literature on cost aversion among the public, we pre-registered a hypothesis that policymakers would generally prefer plans with low short-term costs for fear of political backlash. Nevertheless, we also expected that Democratic policymakers would (a) be more likely to support plans with high short-term costs and high long-term benefits than Republicans, and (b) be more likely to support plans with high costs/benefits than those with low costs/benefits. This follows from the

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<sup>11</sup>An example of a climate policy that may have low short-term costs but high long-term benefits is research and development.



logic that Democrats’ constituents may value the benefits of combatting climate change more than the costs they will endure to a greater extent than Republicans’ constituents.

Though this attribute is admittedly abstract, it contrasts different ideal type plans and therefore forces policymakers to consider whether high long-term benefits are worth high short-term costs. Given the findings of [Brutger et al. \(2022\)](#), we expect increasing contextual detail would not lead to substantively different results. Furthermore, to make this attribute relevant across our sample, some abstraction was necessary since a “low cost” amount to a resident of Los Angeles may be very high cost for a resident of a more rural town.

## Differences in Support Across Climate Plan Attributes

While the preceding discussion theorized about how differences *within* each climate plan attribute could impact support among policymakers, our design also enables us to hypothesize about differences *across* different attributes. Though many comparisons are possible, we focus only on a subset that we believe are the most theoretically motivated. None of the hypotheses in this section were pre-registered, and thus this discussion and the corresponding empirical analysis should be considered exploratory.

First, we expect that support for plans with climate regulations will generally be greater than for taxes than for penalties since the latter involve more visible costs on members of the public. Furthermore, regulations provide clearer benefits than tax incentives when it comes to combatting climate change since the former guarantee increased use of clean and efficient energy, while the latter only nudges people in that direction ([Krosnick et al., 2006](#)). This hypothesis thus ties into debates about how the degree of coercion associated with different policies impacts support (for example, [Drews and van den Bergh \(2016\)](#), who argue that people prefer less coercive climate policies because of lower perceived financial and behavioral costs), and, more generally, what types of cost-imposing policy instruments can garner the greatest support.

Second, following work by [Faricy and Ellis \(2014\)](#) and [Ashok and Huber \(2020\)](#) that finds the public prefers indirect spending via the tax code rather than direct spend-

ing, we expect policymakers will prefer plans that include tax subsidies rather than direct economic compensation. This expectation follows from the assumption that the public prefers indirect spending, which involves less government administration, and that subsidies are more likely to be viewed as helping “deserving” and “hardworking” taxpayers rather than creating the kinds of “government dependency” that direct benefits may cause (Ashok and Huber, 2020). This hypothesis therefore intervenes in debates about the optimal mechanism with which to deliver benefits to constituents (Campbell, 2012).<sup>12</sup>

Finally, given recent arguments in the policy feedback literature that increasing polarization in the US could reduce the *relative* impact that substantive policy design has on attitudes (Hacker and Pierson, 2019), we believe it is relevant to compare the impact of political endorsements to other substantive policy instruments. In particular, we will assess whether the expected positive impact of bipartisan endorsement is greater than the expected positive effect of subsidies or economic compensation on policymaker support. If it is not, then that would imply substantive policy design can be just as impactful as partisan signaling. Though we hypothesized that policy design will matter even in the face of partisan endorsement signals, we do not have any *a priori* expectations about the relative magnitudes of these two different signals.

## Elite-Public Gaps

Despite its relevance to debates about the representativeness of American democracy, the presence or lack thereof of elite-public gaps is contested in the literature. Some studies—such as Dellmuth et al.’s (2019) analysis of international organization legitimacy—find large divergences in opinion between government officials and the public. Studies in this tradition point out that contradictory views between policymakers and the public can arise for at least three different reasons (Kertzer, 2020). First, elites and the public generally differ in their average demographic characteristics, which can impact preferences. For example, a greater percentage of policymakers are male com-

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<sup>12</sup>While direct and indirect spending may serve as substitutes in a climate plan, especially if policymakers are operating under fiscal constraints, they could also conceivably act as complements.

pared to the general public, and previous literature shows that women are more likely to believe in and be concerned about climate change (Egan and Mullin, 2017). Second, elites and members of the public may have different beliefs about the world that shape their policy preferences. For instance, there is evidence that policymakers are more likely than the public to believe that global temperatures are rising (Lee et al., 2021). One potential reason for these differences is that politicians spend more time than the public with lobbyists and donors, whose views and demographics are non-representative (Hertel-Fernandez, Mildemberger and Stokes, 2019). Finally, elites may have more rational and deliberative decision-making processes than average members of the public.

However, despite the many different ways elite-public gaps can arise, we posit several theoretical reasons why preferences between elites and the public should, on average, be similar when it comes to climate policy. First, per our foundational assumption, policymakers have political incentives to be responsive to public opinion. Second, elite cues can impact public opinion, leading to preference convergence (Broockman and Butler, 2017; Guisinger and Saunders, 2017). Third, climate change is a particularly salient issue, meaning policymakers have relatively high political incentives to be attuned to public views on climate policy compared to other, less salient policy areas. For example, Stokes (2016) finds that climate policy can have a significant impact on subnational elections in Canada. On the other hand, Hertel-Fernandez, Mildemberger and Stokes (2019) show that senior Congressional staffers underestimate their constituents' support for climate regulations, suggesting that this expectation is an open question. We therefore pre-registered an expectation that policymaker and public preferences on climate plans would be broadly similar. Recent findings buttress the case for our theoretical expectations. For example, Kertzer (2020) conducts a meta-analysis of 162 paired experiments on members of the public and elites, and finds that elites generally respond to treatments in the same ways as members of the public. Of the 162 treatment effects he analyzes, over 98% do not differ in sign (i.e., whether the relationship is positive or negative) between members of the public and elites, and almost 90% do not differ in size. Of course, at least some differences between policymakers and the public are likely to exist for the three reasons

outlined above (Kertzer, 2020). We are not making a maximalist, deterministic argument that all preferences will be compatible, but a more nuanced, probabilistic argument that they will tend towards compatibility. Unfortunately, as discussed by Kertzer (2020), it is difficult to empirically disentangle *precisely* why gaps might arise, and thus we do not have any theoretical expectations related to when some gaps may occur versus when they will not; this is a task for future work. Instead, we have a general expectation that elite and public views will largely be compatible.

## Data and Methods

### Design

To analyze the determinants of local policymaker and public support for climate plans, we utilize a conjoint experimental design that randomly varies the level of each attribute outlined in Table 1. More specifically, this design involves presenting respondents with two hypothetical climate plans side-by-side and asking them to choose which plan they prefer, as well as to rate each plan individually.

As with any hypothetical experimental study, there are legitimate questions as to whether the results will be externally valid to real-world scenarios. After all, the choice-based conjoint design does not exactly replicate the process elected officials go through to make policy, and other salient factors—such as lobbying by private industry groups—can impact support for climate policy in the real world (e.g., Stokes, 2020). Even so, there is evidence to suggest that our design does have high levels of external validity, especially relative to alternative experimental designs. Most relevantly, Hainmueller, Hangartner and Yamamoto (2015) directly test whether the results from conjoint and vignette experiments correspond closely with real-world behavioral benchmarks. They find paired conjoint designs—such as ours—match behavioral benchmarks quite closely and perform better than the more common single vignette design. Theoretically, this is likely the case because conjoints have several attractive properties. First, they simultaneously vary many attributes at once, better representing the multiple tradeoffs policymakers face in

choosing between complex policy instruments in the real world compared to more simplified vignette designs. For example, policymakers do not decide whether to support a climate package based exclusively on the particular policies embedded in it, but also based on factors such as who is endorsing the plan and when the policies will be implemented. Our design captures this real-world complexity. Second, though a conjoint experiment—like any survey experiment—measures *stated* rather than *revealed* preferences, prior work finds evidence that fully randomized conjoint designs can significantly reduce social desirability bias compared to other types of experimental designs (Horiuchi, Markovich and Yamamoto, 2022). One explanation for this result is that respondents are less likely to fear sanction for expressing their true views since the complexity of conjoint designs enables them to rationalize their choices based on other non-sensitive attributes.

The context that respondents receive in the beginning of the experiment is that these are climate plans proposed by a non-partisan international organization. This mirrors real-world international climate initiatives aimed at local governments, and makes the inclusion of the international participants attribute more credible. After evaluating four pairs of plans, respondents are then asked to select the attribute that was most important in making their decisions, and to explain in an open-ended question why this factor was the most important in their opinion.

## Samples

In partnership with CivicPulse, a nonprofit research organization, we leverage a sample of 573 local policymakers that includes mayors, county executives, and council members from across the US. This sample has been utilized in prominent research, including on environmental issues (Malhotra, Monin and Tomz, 2019; Lee et al., 2021; Lee and Stecula, 2021). CivicPulse recruited respondents in April/May 2021 by inviting via email a random sample of all US town, municipal, and county elected officials serving populations above 1,000. We show summary statistics for the policymaker sample in Ta-

ble 2.<sup>13</sup> We also utilize survey weights, provided by CivicPulse, in our main analyses to increase sample representativeness. These weights include the locality’s college education rate, population size, level of urbanization, and 2020 Democratic vote share. They are designed to increase the sample’s representativeness with respect to the full population of local governments in the US. In total, respondents in our elite experiment completed over 2,100 paired choice tasks.

**Table 2:** Summary Statistics: Policymakers

Variable	Min.	Max.	Mean (Weighted)	Mean (Unweighted)
Partisanship ( <i>Higher=Stronger Democrat</i> )	1.00	5.00	3.21	3.28
Ideology ( <i>Higher=More Liberal</i> )	1.00	6.00	2.98	3.14
Climate Change Belief ( <i>4=Yes/Mostly Humans</i> )	1.00	4.00	3.45	3.50
Gender ( <i>1=Male; 2=female</i> )	1.00	2.00	1.51	1.33
Age ( <i>7=Born 1956-1960; 8=Born 1961-1965</i> )	1.00	15.00	8.74	7.31
Education ( <i>4=Some College; 5=College Degree</i> )	1.00	7.00	4.25	5.45
Dist. 2020 Dem. Pres. Vote Share ( <i>2=Second Tercile</i> )	1.00	3.00	2.65	2.63
Dist. College Prop. ( <i>2=Second Tercile</i> )	1.00	3.00	2.09	2.32
Dist. Urban Prop. ( <i>2=Second Tercile</i> )	1.00	3.00	2.11	2.26
Govt. Type ( <i>1=County; 2=Municipal; 3=Township</i> )	1.00	3.00	2.03	2.08
Election Ambition ( <i>0=None; 1=State; 2=Federal</i> )	0.00	3.00	0.60	0.50
Local Fossil Fuel or Auto Industry ( <i>1=No; 2=Yes</i> )	1.00	2.00	1.39	1.37
Local Green Industry ( <i>1=No; 2=Yes</i> )	1.00	2.00	1.30	1.33
Extent Local Community Impacted by CC	0.00	5.00	1.48	1.42
Extent Supporting CC Policy Is Politically Harmful	1.00	5.00	3.03	3.02

*Notes:* For measures with more than 2 levels, the levels surrounding the mean are noted in the variable description.

We also field our conjoint experiment on a sample of 1,029 Americans recruited in December 2021 in partnership with Lucid, which is nationally representative based on age, gender, race/ethnicity, and region. Recent work shows experiments fielded on Lucid are high-quality and do well replicating previous findings (Coppock and McClellan, 2019).

Pairing our elite experiment with a substantively identical replication on the mass public enables us to compare and contrast the views of these populations. Of course, the optimal analysis of elite-public gaps would involve comparing the views of the public and their specific local policymakers (Lax and Phillips, 2012). After all, significant gaps in opinion on climate policy between, say, local policymakers from Oklahoma City and

<sup>13</sup>Summary statistics for the public sample are shown in the appendix, as well as more detailed descriptions of each demographic variable and weighting procedures.

members of the public from New York City are less relevant for democratic accountability and representativeness than gaps between policymakers and citizens from the same locale. Unfortunately, this type of fine-grained geographical analysis is not ethically possible given the need to maintain the policymakers' anonymity. CivicPulse does not provide data on which particular locality policymakers represent because, in conjunction with other data points such as age and gender, this information could be used to reveal policymakers' identity and thus violate the terms under which policymakers agreed to participate in the survey. Nevertheless, since we have both a national sample of policymakers and a national sample of the public, we believe our more macro-level analysis of elite-public gaps can still tell us something useful about whether elites and citizens are generally on the same page or not when it comes to climate policy. Just as national presidential polls are informative even though the electoral college makes presidential elections a state-by-state race, a national analysis of elite-public gaps in this case is still valuable because it correlates with differences in opinion between policymakers and citizens at a more granular level.

## Results

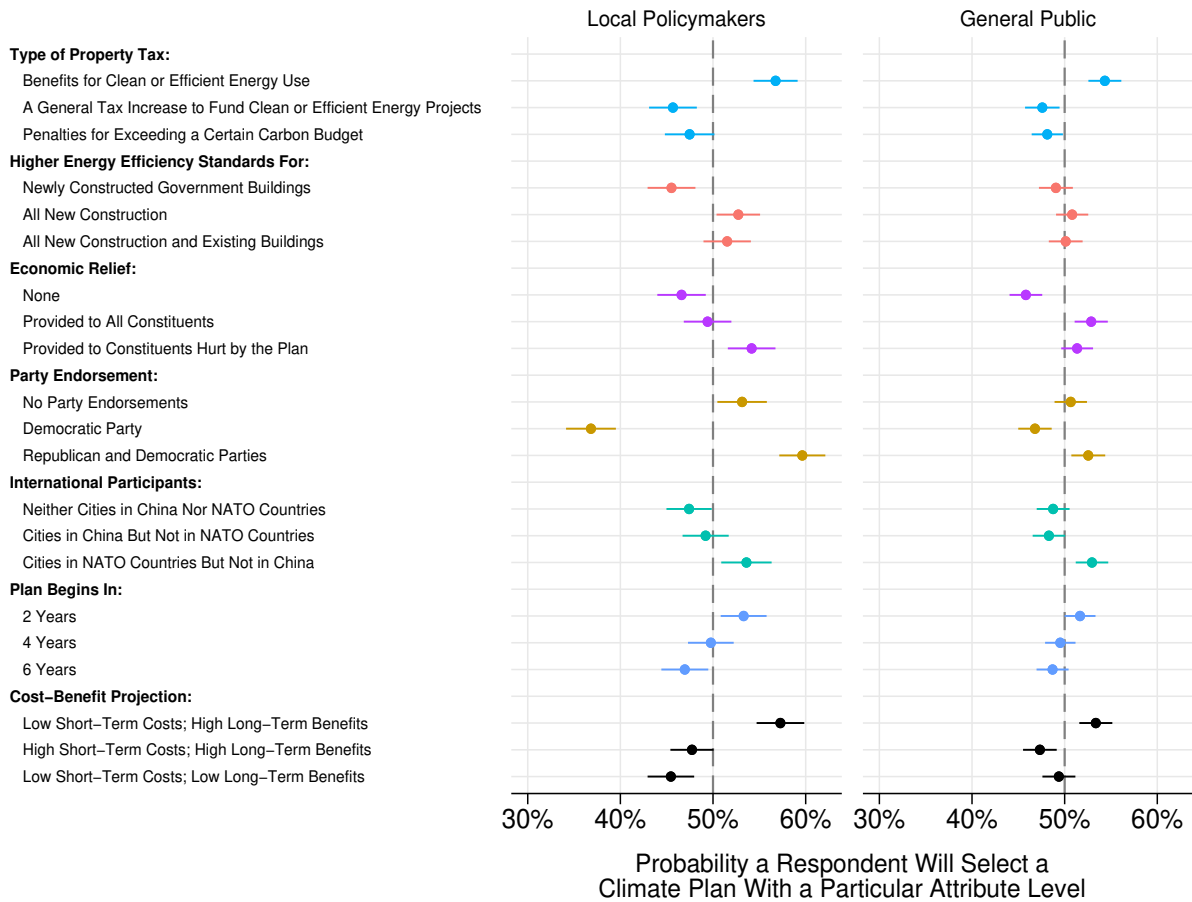
Following [Leeper, Hobolt and Tilley \(2020\)](#), we estimate marginal means (MM) for each attribute level.<sup>14</sup> MM reflect the probability that a respondent will support a particular climate plan with a particular attribute level, averaging over the distribution of the remaining climate plan attributes. Values over 50% indicate that the attribute level increases overall favorability of the plan, while values under 50% indicate it decreases favorability. [Figure 1](#) displays the main results for all policymakers in our sample, as well as the results for the public. [Figure 2](#) then illustrates the differences between policymakers and members of the public by plotting the difference in MM.

In accordance with our expectations on elite-public gaps, the preferences of policymakers and the mass public are largely compatible in both sign and size. Per [Kertzer](#)

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<sup>14</sup>We cluster standard errors by respondent since each respondent completes multiple tasks.

**Figure 1:** The Impact of Climate Policy Attributes



**Note:** Bars are 95% confidence intervals based on respondent-clustered standard errors for the Marginal Mean (MM) of each attribute level.

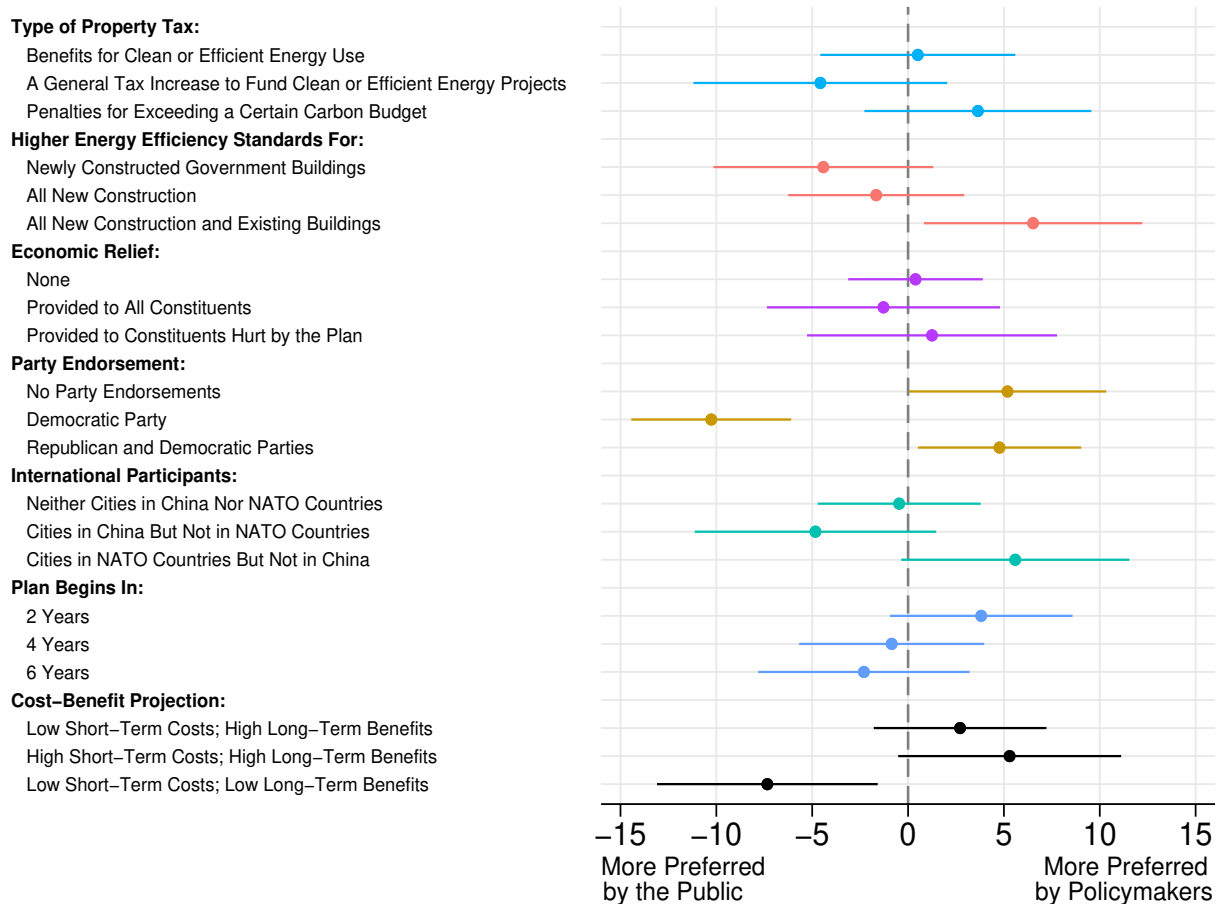
(2020), effects in our context can be said to differ in sign when (1) MM for both elites and members of the public significantly differ from the 50% threshold, and (2) when one effect is negative (below 50%) and the other is positive (above 50%). Following this procedure, *none* of the MM shown in Figure 1 differ in sign between local policymakers and members of the public. That is, none of the attribute levels significantly increase plan favorability for policymakers but decrease it for members of the public, or vice-versa. Figure 2 further shows that a substantial majority—over 75%—of the MM we estimate do *not* significantly differ in size between local policymakers and members of the public—that is, the difference in MM between policymakers and the public is not significant.

Why might our findings differ from Hertel-Fernandez, Mildemberger and Stokes’ (2019)? One possibility is that elite-public gaps are smaller for local policymakers com-



pared to federal officials given that the former are closer to their constituents (geographically, culturally, and in terms of their sources of information) and have fewer constituents to represent. Another is that the *senior* congressional staffers Hertel-Fernandez, Milderberger and Stokes (2019) survey spend less time in their districts or states speaking to constituents than their elected principals. In any case, given the differences in sample and design, our results certainly do not overturn those of past studies, but indicate that more research is needed on the conditions under which elite-public gaps are large or small. To probe these results further, we now proceed to discuss our findings for each attribute in turn.

**Figure 2: Probing Elite-Public Gaps**



**Note:** Bars are 95% confidence intervals based on respondent-clustered standard errors for differences in Marginal Means between local policymakers and the public.

## Property Taxes

In accordance with our pre-registered expectations, we find that local policymakers and members of the public prefer plans that include subsidies compared to those with taxes or penalties.<sup>15</sup> Specifically, local policymakers are about 9 to 11 percentage points less likely to support a climate plan that includes some kind of tax or penalty instead of benefits for clean or efficient energy use. Furthermore, tax increases and penalties are not just less popular *relative* to subsidies, but also reduce support for the climate package in general. A substantively identical pattern of results also holds for members of the public, and there are no significant differences between elite and public views with respect to this attribute. Although carbon and other related taxes have received much attention as a policy tool to address climate change, this result implies that it is wiser from a political perspective to advocate for subsidies that encourage clean energy usage. This is especially the case because taxes and subsidies are policy substitutes in that they can have similar substantive impacts on climate change. These findings also have broader implications for the policy feedback literature: they provide evidence that politicians, as well as the public, prefer policies that avoid imposing visible costs on constituents.

## Energy Efficiency Standards

Optimistically for the future of climate change efforts, and in contrast to our pre-registered expectations, we find that local policymakers are likely to support climate plans with expansive energy efficiency standards. Compared to plans with higher energy efficiency standards only for newly constructed government buildings, policymakers are about 6 to 7 percentage points more likely to support plans with higher standards for all new construction or all new construction *and* existing buildings. Given that the latter two policies would be significantly more invasive, disruptive, and potentially costly for constituents relative to higher standards only for government buildings, this result suggests at least some level of willingness on the part of local policymakers to impose

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<sup>15</sup>To make comparisons between attribute levels, we calculate differences in the marginal means displayed in Figure 1.

costs on their constituents to make progress on combatting climate change. Contrary to our expectations, we optimistically also do not find a significant difference between the two more expansive energy efficiency attribute levels. Since residential buildings in the US have a huge carbon footprint, this is an especially significant substantive finding. Although a similar pattern of results holds for the public, the size of the effect is much smaller and not statistically significant. While the level of public support is lower than that of policymakers, it is still non-negative, indicating that the public would be unlikely to raise substantial opposition to stricter energy efficiency measures. Future work could disentangle whether it is cost, visibility, or the certainty of benefits regulations provide driving these findings

## Economic Relief

Per our expectations, local policymakers and the public are generally supportive of plans with economic compensation to defray the costs of climate policies. For policymakers, economic compensation may also be attractive for its potential to reduce the chances of political blowback. This finding accords with work in the policy feedback literature that programs that provide visible benefits to the public tend to garner greater support, and is consistent with existing work on climate policymaking and the importance of using policy benefits to create climate coalitions, specifically targeting affected groups (e.g., Gaikwad, Genovese and Tingley, 2022; Bechtel, Genovese and Scheve, 2017).<sup>16</sup>

In contrast to our theoretical expectations and findings in the policy feedback literature (e.g., Campbell, 2003), we do not find any significant evidence that plans with universal economic relief are favored compared to those with targeted relief. In fact, the opposite holds among policymakers: narrow relief is favored by almost 5 percentage points compared to universal relief ( $p \approx 0.01$ ). Work on climate coalitions can help to explain this dynamic, for example, pointing to the importance of norms of equity, fairness, and altruism. Future work should follow up on this finding to explicitly test its mechanisms and whether it holds in other contexts, potentially complicating the conventional wisdom

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<sup>16</sup>See also Breetz, Mildenerger and Stokes (2018); Gard-Murray (2022).

in the literature. One possible explanation for this finding is that policymakers believe the constituents hurt most economically by a climate plan will have the greatest motivation to take political action against them. If this is the case, then concentrating relief to those harmed may be perceived as the optimal electoral strategy.

## National Party Endorsements

In accordance with our theoretical expectations, support for a climate plan is 6.5 percentage points greater among policymakers when there is bipartisan endorsement of the plan than when neither party endorses it. More interestingly, and in line with the hypothesis that an endorsement from only the Democratic Party can be counterproductive (Guisinger and Saunders, 2017; Merkley and Stecula, 2021), support is significantly lower—over 16 percentage points for policymakers and almost 4 percentage points for the public—when only the Democratic party endorses the plan compared to when neither party does. Although we pre-registered a hypothesis that this dynamic would hold among Republican respondents, we did not anticipate it holding among our full sample. Given that the policymaker MM for Democratic Party only endorsement is the largest (relative to the 50% threshold) in our entire study, this suggests that supporters of climate action must take care to avoid the perception of overly partisan environmental plans. For example, local policymakers may do well to encourage national parties to avoid endorsing their climate plans unless bipartisan support can be gained. While the same pattern of results hold for members of the public, the magnitude of the effects differs. Policymakers are over 10 percentage points less likely to support climate plans with only Democratic Party endorsement and almost 5 percentage points more likely to support plans with bipartisan endorsements relative to the public ( $p < 0.03$ ). This difference suggests that local policymakers are particularly averse to partisan climate plans, likely due to fear of electoral consequences. It thus contributes to the literature on elite versus public polarization (e.g., Enders, 2021).

## International Participants

While previous studies have found mixed effects of international participation in climate agreements (Bechtel and Scheve, 2013; Tingley and Tomz, 2014), we find some evidence, in accordance with our pre-registered hypothesis, that policymakers and the public are more likely to support a climate plan with greater international participation compared to no international participation. Specifically, we find statistically significant evidence that international participation from in-group actors (e.g., NATO) increases support relative to no international participation, whereas we do not find similar evidence for participation by out-group actors (e.g., China) compared to no international participation. This suggests that transnational climate initiatives among friends might be more likely to succeed compared to initiatives that are solely domestic in nature.

## Time to Implementation

Optimistically and in contrast to our pre-registered expectations, policymakers generally support climate plans with shorter implementation times compared to those with longer ones, suggesting that concerns about the effects of climate change outweigh “time-inconsistency” problems. For example, support is almost 6.5 percentage points less among policymakers for plans that begin in 6 years instead of 2 years, and climate plans that will not be implemented for 6 years actually have lower levels of support in general. The US public also prefers shorter implementation times in general, though the substantive size of the effect is smaller and the public is somewhat less likely to support plans that begin in 2 years than local policymakers ( $p < 0.12$ ). Given the time pressure humanity is under to avoid the worst effects of climate change, these are promising findings overall.

## Cost-Benefit Analysis

Finally, we unsurprisingly find evidence for our pre-registered hypothesis that local policymakers and the American public strongly prefer plans with low short-term costs and high long-term benefits compared to climate plans with either high short-term costs or low long-term benefits. More interestingly, on average among our full sample of policymakers

and members of the public, we do not find any statistically significant differences between plans with high short-term costs and high long-term benefits compared to plans with low short-term costs and low long-term benefits. This optimistically implies, in contrast to our expectations, that climate plans with high short-term costs are not viewed less favorably than plans with low short-term costs, as long as the expectation is that they will also yield high long-term benefits. Given the public's cost sensitivity in particular, this is not a trivial result.

## Between Attribute Comparisons

We highlight four salient differences across climate plan attributes here. First, per the logic in the policy feedback literature that policies with less visible costs will garner greater support, we find that support for plans with climate regulations on all new construction or on new construction and existing building are generally greater than support for plans with taxes or penalties. For example, support for plans with higher standards on all new construction are over 7 percentage points greater among policymakers than for plans with tax increases ( $p < 0.001$ ). Thus, advocating for command-and-control climate regulations may be more politically palatable than climate-related taxes or penalties.

Second, in accordance with work by [Faricy and Ellis \(2014\)](#) and [Ashok and Huber \(2020\)](#), we find that policymakers prefer plans with indirect spending via the tax code rather than those with direct economic relief provided to all constituents by over 7 percentage points ( $p < 0.001$ ). However, in contrast to prior work, this finding does not hold among the public nor is there any difference in support between subsidies and targeted economic relief among either the public or policymakers. Overall, then, our work does not suggest that one particular policy mechanism for delivering visible benefits to the public holds a large advantage over another.

Lastly, we assess the significance of partisan signaling relative to other, more substantive, policy design attributes. In a sign of the impact of polarization and strength of partisan signaling, we find that partisan climate plans endorsed by only the Democratic Party actually reduce support among policymakers 8.5 to 11 percentage points more than

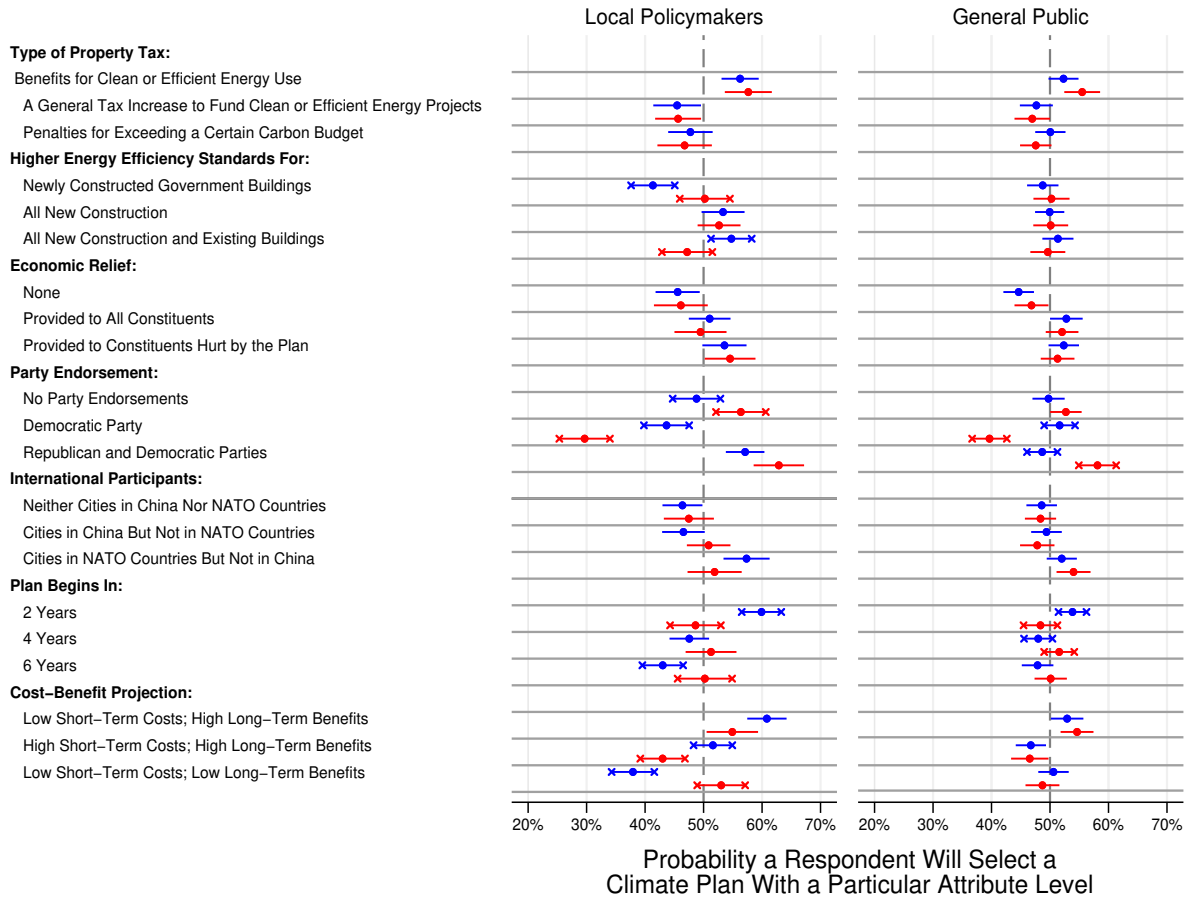
policies such as taxes and penalties that impose highly visible costs on constituents ( $p < 0.001$ ). This provides suggestive evidence for [Hacker and Pierson’s \(2019\)](#) argument that increasing polarization may be reducing the relative impact of policy design. On the other hand, the positive impact of substantive policies such as tax benefits is not statistically different from the positive impact of bipartisan endorsement. This implies that while the effect of partisan signaling is large in our current environment, substantive design features can also have effects that are just as large.

### **Subgroup Analysis: Party Identification**

In the appendix, we present subgroup analyses based on a range of factors, including belief in climate change, political ambition, perceived effect of climate action on election prospects or local economic conditions, presence or lack thereof of carbon/green industries locally, government type, and other demographic factors such as education and gender. Here, we focus on a particularly salient respondent-level characteristic: political identification. Although a common assumption is that local politics does not involve significant partisan conflict in the same way that national politics does, new research challenges this argument. For example, [de Benedictis-Kessner and Warshaw \(2020\)](#) find that electing Democratic local legislators leads to higher levels of local government spending. This suggests that partisan differences over climate policy may very well exist, even among local policymakers. [Figure 3](#) plots the MM for Democrats and Republicans separately for policymakers and members of the public. At the outset, note that the partisan dynamics for policymakers and the public are broadly similar.

Starting with our property tax attribute, we find no significant differences between Democratic and Republican local policymakers or members of the public. Plans with subsidies are favored over those with taxes on a bipartisan basis, which only strengthens the political rationale for climate advocates to support the former over the latter. Similarly, no significant differences emerge between Democratic and Republican policymakers or the public for the economic relief attribute. This suggests that economic relief in the context of climate plans has bipartisan support and thus could be a useful tool to increase

**Figure 3: Differences By Partisan Identification**



**Note:** Bars are 95% confidence intervals based on respondent-clustered standard errors for differences in marginal means between Democrats and Republicans. Estimates for Democrats are in blue and Republicans in red. Significant differences between Democrats and Republicans at the 5% level are denoted with an “x” at the end of the confidence interval bars.

local policymaker backing for environmental action.

We find larger differences in support for plans with higher energy efficiency standards by political identification. In accordance with our pre-registered expectations, Democratic policymakers are significantly more likely to support plans with higher standards on all new construction and existing buildings, while Republicans are more likely to support plans with higher standards on government buildings only. This implies that it may be harder to gain Republican policymaker support for the most stringent energy efficiency standards. Nevertheless, we do not find a significant difference by party identification for higher standards on all new construction, the middle-ground policy. Moreover, there are no significant differences at all between Republican and Democratic members



of the public. This suggests a political compromise is possible between the most narrow and most expansive energy efficiency standards.

For partisan endorsements, the subgroup analysis reveals substantial heterogeneity that is masked in a topline examination. In line with our pre-registered expectations, Republican policymakers and members of the public are much less likely than their Democratic counterparts to support climate plans when they are endorsed by only the Democratic Party. However, even *Democratic* policymakers are generally less supportive of plans with only Democratic party support compared to no endorsements, likely because they do not want to be framed of as overly partisan or extreme actors.<sup>17</sup> By comparison, policies with bipartisan support are relatively popular among policymakers of both parties. Overall, our findings suggest that a strategy of *no* partisan endorsement may yield more support from members of both parties than plans with only a Democratic Party endorsement.

We also uncover striking differences between Democratic and Republican policymakers with respect to the time to implementation attribute. As we hypothesized, Democratic officials are much less likely than Republican officials to support plans that begin in 6 years and much more likely to support plans that begin in 2 years. Democratic members of the public are also more likely to support plans that begin in 2 years than Republican members of the public. Although Republican policymakers generally prefer longer implementation times, their preferences are less strongly held than Democrats', and there are no significant differences between Republican and Democratic policymakers for plans that begin in 4 years. Once again, this suggests that political compromise may be possible, though the urgent necessity of climate action might mean that climate advocates should still push for the shortest implementation times that are logistically feasible.

Lastly, as we anticipated in our pre-analysis plan, while Democratic policymakers are significantly more likely to support plans with high short-term costs if these costs

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<sup>17</sup>Per [Merkley and Stecula's \(2021\)](#) work, the opposite holds for Democratic members of the *public*.

are associated with high long-term benefits, Republican policymakers are more likely to support plans that eschew long-term benefits in order to keep the short-term costs down. This illustrates a fundamental disconnect between Democratic and Republican elites with respect to their outlooks on the severity of climate change.

In sum, these heterogeneous effects demonstrate that it is important to disaggregate preferences by salient individual-level characteristics—such as party identification—to have an accurate understanding of climate attitudes. Even so, there remains a surprising degree of agreement between Republicans and Democrats on many climate plan design features, and when partisan differences do exist, we observe that there is often space for compromise on middle-ground policies.

## **Interaction Effects Between Attributes**

To probe interaction effects, we follow [Egami and Imai \(2018\)](#) and estimate the non-parametric average marginal interaction effect (AMIE). We test two primary interaction effects outlined in our pre-analysis plan. The rationale behind the posited interactions are that political cover—either by reducing the salience of costs or signaling broad support—could create space for policymakers to support more ambitious plan designs.

First, we assess whether local policymakers are more likely to support expansive climate policy proposals (e.g., broader-based energy efficiency standards and climate plans with high short-term costs and high long-term benefits) when economic costs are made less salient to constituents due to economic relief or delayed implementation time. We do not find any statistically significant evidence of this dynamic. This suggests that while climate plans with economic relief are more likely to be supported overall by local policymakers, the inclusion of economic compensation will not necessarily convince them to support bolder environmental action.

Second, we analyze whether local policymakers are more likely to support expansive policy proposals when broader policy support is signaled either by national party endorsements or greater international participation. We find no support for this possibility, implying that external endorsers and participants will also not necessarily persuade

local policymakers to support larger-scale climate action.

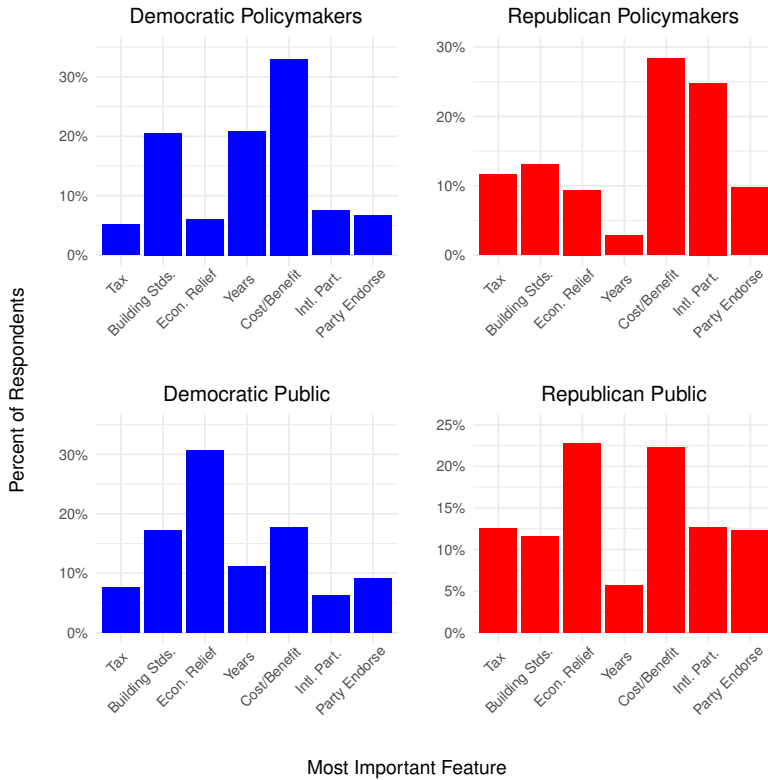
## Most Important Feature and Open-Ended Responses

To better understand the relative preference intensity across the different attributes, we also ask respondents to select the most important feature in their decision-making. For the few areas where local policymakers and the public differ, the probability of climate action may be increased by prioritizing the preferences of whichever group indicates that specific policy attribute is more important to them. For example, when climate interest groups lobby policymakers to adopt specific policies, they are implicitly or explicitly choosing from a menu of options and may have to consider whether to lean towards public or policymaker views. The same dynamic holds for a policymaker considering what policies to propose to their colleagues, as the individual policymaker must balance the preferences of their colleagues with those of their constituents and the public at-large. Nevertheless, given that policymakers play a different and more proximate role in the agenda-setting and policy adoption process than the public, preference intensity is not the only factor to consider.

In Figure 4, we show that a plurality of local policymakers—about 30%—report that the cost-benefit analysis attribute was the most important factor in making their choice of plans, and that this feature was the most critical factor for both Democrats and Republicans. This suggests that the overall cost-benefit analysis of a climate plan may have a bigger impact on policymaker support than more detailed elements of a plan’s design (e.g., exactly how higher energy efficiency standards are structured). However, given that our construction of the cost-benefit attribute was particularly abstract and in the real-world the scale of costs and benefits would likely be more contested, this result should be interpreted with caution.

By contrast, the most important feature for the public is economic relief, which actually received the *fewest* votes for most important feature among policymakers collectively. A qualitative review of the open-ended responses highlights significant support among the public for providing economic relief to defray the plan’s costs specifically or

**Figure 4: Most Important Feature By Party ID**



**Note:** Results are weighted by Civic Pulse (policymaker sample) and Census weights (public sample). Unweighted results are substantively similar.

help people in general. For example, one respondent said, “Since converting to green energy will be somewhat expensive, low-income families will need some form of economic relief.” Another noted, “I am very low income and high costs would hurt.” The greater importance placed on economic relief by the public compared to policymakers makes logical sense. Since demographic differences can drive elite-public gaps (Kertzer, 2020), one potential explanation for this difference is that the public is relatively less well off economically than elites, and thus they have greater financial incentives to care about economic relief (Gaikwad, Genovese and Tingley, 2022). Including economic relief in climate plans may therefore be a particularly effective strategy for policymakers to pursue in order to gain public support.

We also uncover heterogeneity between Democratic and Republican policymakers and members of the public. About 20% of Democratic local policymakers said the time to implementation attribute was the most important factor in making their choice of plans, compared to under 3% of Republicans. A similar split also exists for the US public. A

review of the open-ended responses suggests policymakers that believe this is the most important attribute perceive climate change as a time-sensitive challenge that requires urgent action. For instance, one policymaker said, “The clock is ticking,” another argued, “Timing is critical!! Action must be taken quickly,” and a third insisted, “Really important to move quickly to avoid cataclysmic [destruction].” The disparity we observe between Democrats and Republicans on this question likely reflects a fundamental difference in belief about how urgent the climate crisis is.

We also find that a significantly larger percentage of Republican policymakers than Democratic policymakers view the international participants attribute as the most important. The open-ended responses provide anecdotal evidence that some respondents chose this attribute due to an understanding that climate change is a global problem and action by only the US will be insufficient. For example, one policymaker said, “...[A]ll contributors to climate change must be at the table. A global problem needs a global solution.” A qualitative review of the open-ended responses also suggests that while many policymakers used hostile language when discussing China, few discussed NATO countries at all. For instance, one policymaker said, “Let’s face it. China is the problem. There. I’ve said it....” Among some members of the public, animosity towards China is so high that many expressed the view that China should be excluded from climate initiatives altogether: “Anything with China I oppose.” Future research should unpack the linkage between hostility towards China and climate attitudes (Mutz, 2018).

## **Robustness**

To verify the robustness of our core results and further validate our design, we take a number of steps which we describe in detail in the appendix. Across all the robustness tests, we find support for our core empirical findings. First, we illustrate that our results are substantively similar when we compare attribute levels using our rating outcome measure—which asked respondents to rate each plan individually on a 5-point scale—rather than the traditional forced choice outcome measure we utilize in our main models. While the binary measure used in our main models enables us to analyze how the

manipulated factors impact *relative* levels of support for climate plans, the rating measure illustrates how the experimental factors affect *absolute* levels of support for climate plans (Bechtel and Scheve, 2013, 13766). In other words, the former measure can tell us how different factors impact the probability of one plan being chosen over another, whereas the latter speaks to how various attributes affect whether policymakers and members of the public would support taking climate action at all. This is significant because rather than choosing between two different climate plans, some policymakers may (a) oppose any climate policy, or (b) prefer to build their own policy and thus oppose the particular policies we presented them with. Our ratings measure can capture these dynamics since respondents can register low support for *both* climate plans presented to them.

As one final test, we also create a dichotomous version of our ratings measure that equals 1 if respondents “strongly support” or “somewhat support” a climate plan and 0 otherwise. This variable captures the extent to which different levels of the attributes we analyze can move respondents from not supporting a climate plan to supporting a climate plan.<sup>18</sup> The robustness of our results across these different types of dependent variable measures suggests we are capturing something real about policymakers’ preferences and our findings are not simply an artifact of the forced-choice nature of typical conjoint designs.

Second, we show that the lack of significant elite-public gaps also holds when we conduct a more fine-grained comparison. In particular, we separately compare citizen and policymaker views in three states: Texas, Pennsylvania, and New York. We choose these particular states for two reasons. First, the sample size of citizens and policymakers in our studies from these states was relatively large, maximizing the statistical power with which we can conduct these analyses. With that being said, even these tests were relatively underpowered, and readers should bear in mind that the absence of evidence of a difference between policymakers and the public is not the same thing as compelling

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<sup>18</sup>About 46% of climate plans presented to respondents are either strongly or somewhat supported, meaning it is *not* the case that an overwhelming proportion of plans are opposed no matter the particular attributes associated with them.

evidence that there is indeed no difference. Second, these three states represent a wide spectrum of political opinion, as they include a solidly Republican-leaning state (Texas), a “swing” state (Pennsylvania), and a solidly Democratic-leaning state (New York). We find that 0 out of a total of 63 MM comparisons significantly differ in *sign* between policymakers and members of the public per [Kertzer’s \(2020\)](#) test, and only 4 out of a total of 63 MM comparisons differ in *size* between elites and citizens. This illustrates that even when getting as close as feasibly and ethically possible to the level of democratic accountability in our sample, there is an absence of statistical evidence for consistent elite-public gaps. Finally, we demonstrate that our results are substantively identical when sampling weights are omitted or we utilize average marginal component effects rather than MM.

## Conclusion

Despite the significant threat posed by climate change, limited progress at the federal level to combat it has increased the importance of initiatives at the local level. This paper addresses previously unanswered questions by examining the causal determinants of local policymakers’ support for climate policy, and systematically comparing the preferences of policymakers to the mass public. Our two core findings provide optimism about the future of climate action at the local level. First, we find that a range of climate policy attributes, including ambitious plan design elements, have a significant impact on local policymaker support, including for Republican policymakers. This means that the probability of policy adoption can be increased by strategic design. Most notably, climate plans with more hidden costs—such as tax subsidies and regulations—garner greater support than plans with more visible costs—such as taxes and penalties. This suggests that pushing for a carbon tax, as many activists, economists, and even policymakers have done, may not be the most effective political strategy. Our findings also suggest that direct economic compensation to defray the costs of climate policy is popular, and that policymakers should make every effort to avoid the perception that climate plans are partisan, as this significantly reduces support.

Second, our analysis reveals that policymaker and public preferences are largely compatible, making it easier for climate policies to gain broad-based support among both elites and the public. This finding is also a positive sign about the representativeness of American democracy and has broader implications outside of climate change research. Nonetheless, this conclusion should be interpreted with some caution, as we are not able to directly match policymakers with their constituents to analyze elite-public gaps on a more granular level. Our design also does not enable us to effectively assess *why* elite-public gaps are relatively small. Moving forward, scholars could analyze whether it is electoral incentives or other mechanisms driving this finding.

Future work can also build on this project by examining the impact of other climate plan attributes (such as car emissions standards), analyzing the views of state or federal-level officials, and conducting similar studies in different countries. It can also dig deeper into the climate attributes we study. For example, if the hidden costs of subsidies were made clearer, would they still increase support for climate plans relative to taxes and penalties? What factors determine whether proponents or opponents of climate policy are able to frame a plan's benefits and costs as high or low? In addition, our results average over local contexts, which can vary greatly and could condition policymakers' willingness to support climate plans and incentives to align with public opinion. For example, the salience of climate change in a community can be affected by industrial policy (Gaikwad, Genovese and Tingley, 2022) and climactic disasters (Arias and Blair, 2023). Future work should explore the importance of variation in context, both across localities and over time, in shaping preferences over climate policy.

Overall, while climate change is a global problem and action can and should be taken at the national and international level to combat it, our project indicates that efforts at the local level also hold promise given high levels of compatibility between public and policymaker preferences, in addition to areas of bipartisan agreement. As the saying goes, "think globally, act locally" is one avenue among many to combat climate change.



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