



RESEARCH ARTICLE

How do Europeans want to fight climate change? Comparing and explaining public support for a wide variety of policies

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Abstract

Most people are concerned about climate change and want policymakers to address it. But how? To investigate which policy options are more versus less popular, with whom, and why, we collected data in four European countries on attitudes toward 16 policies: taxes, bans, regulations, and subsidies/spending. We argue that support for different policies should reflect perceptions of policies' net costs, and that such perceptions are likely influenced by people's political trust. We tested this expectation by randomly assigning survey respondents to read different versions of given policies and confirmed that individuals with low political trust, who are less supportive overall of most policies, are most sensitive to variation in implied costs. We argue this interaction effect is a previously untested implication of the influential theory that political trust operates as a heuristic, and it helps explain policies' varying popularity, including the puzzle of why carbon taxes are highly unpopular.

Keywords: carbon taxes; climate policy; Fit for 55; public opinion; political trust; policy costs; survey experiments

Introduction

Around the world, surveys have shown that most people believe the climate is changing due to human influences, they are concerned about it, and they want their governments to address it (Abou-Chadi et al. 2024; Andre et al. 2024; GlobeScan 2021). What exactly they think their governments should be doing to reduce greenhouse gas emissions, however, is less clear, especially given many climate policy proposals have met with significant public opposition. Particularly as public opinion influences policymakers' decisions (Kallbekken 2023; Schaffer et al. 2021; Schwörer 2023), social scientists and pollsters have been investigating people's beliefs and concerns about climate change and other environmental problems for

decades. But less research has investigated people's preferred policy responses, and reasons for them (Prakash and Bernauer 2020; Steg 2018). In this article we investigate which climate policies are more versus less popular, with whom, and why, using original data from a survey asking about 16 policies in four European countries.

Insofar as prior studies have compared people's views of different climate policies, they have generally considered only a narrow range (Ejelöv *et al.* 2022; Fairbrother 2022; Tallent 2025). The policy most often investigated in existing literature has been taxation. Taxes are not typical, however, as the few studies comparing attitudes toward different policies have found taxes to be unpopular (e.g., Axsen *et al.* 2020; Douenne and Fabre 2020; Rhodes *et al.* 2017). This finding is puzzling, insofar as prior research suggests policy attitudes reflect policies' costs (Bakaki and Bernauer 2017; Harring, Jagers, and Matti 2019; Shwom *et al.* 2010), and policy experts generally suggest that, per unit of pollution abated, taxes are *lower-cost* relative to all other policies (Baranzini *et al.* 2017). The unpopularity of taxes therefore calls into question whether policies' costs really make much difference to people's attitudes.

In this article, we test one possible explanation of why taxes are so unpopular, and of the relative popularity of different climate policies more generally: political distrust. We build on prior studies showing that individuals with low political trust hold significantly more negative views of carbon and environmental taxes (Fairbrother *et al.* 2019; Klenert *et al.* 2018). Though documented in several studies, the reason for this relationship is unclear. The possible explanation we explore here is that people with less political trust perceive the net costs of taxes and other policies, relative to their benefits, to be relatively high. Such a possibility is implied by the trust-as-heuristic perspective that is the literature's strongest theoretical rationale for why political trust shapes policy attitudes generally (Devine, Stoker, and Jennings 2024; Rudolph 2017). This theory suggests that individuals with lower political trust foresee higher policy costs generally (Citrin and Stoker 2018; Devine 2024). No prior study has tested this expectation empirically, however.

To provide such a test, we collected survey data on attitudes toward a range of climate policies and presented most of them in different, randomly selected ways – some versions highlighting policies' costs or implying higher or lower costs. We tested for an interaction between a policy's implied (experimentally manipulated) cost and individuals' background political trust, thereby assessing the hypothesis that individuals with lower political trust are more sensitive to implied costs. Comparing support for policies with higher or lower implied costs and support for the same policies but without any explicit reference to costs also allowed us to infer what costs people imagine policies to have by default. Our experimental manipulation allows us to investigate how people use political trust as a heuristic for assessing government actions, insofar as trust shapes *perceptions* of policy costs to some degree independently of actual costs. Our study thus grapples with the question of where people's perceptions of policy costs come from.

The survey, fielded in Sweden, Spain, Germany, and Poland, asked respondents about their views of a wide range of policies, including a variety of taxes, bans, regulations, and subsidies and spending. The 16 policies were largely inspired by the "Fit for 55" package that is the European Union's main strategy for meeting the goal

of reducing its greenhouse gas emissions 55% by 2030, relative to 1990 (Council of the EU 2022). Some of these policies have major implications not just for greenhouse gas emissions but also income distribution, the transformation of industry, and international relations.

After outlining the study background, hypotheses, data, and methodology, we proceed by reporting the relative popularity of different policies; the variable support for policies according to implied costs; differences in the support of individuals with low versus high political trust; and, finally, how the effect of varying a policy's implied cost differs between low- and high-trust individuals. We find some differences across countries, though mostly consistent key findings. First, comparing across policies, taxes tended to be the least popular type of policy, regulations the most popular, and bans and subsidies/public spending in between, albeit with large differences within each of these countries. Second, comparing responses to different versions of given policies, we confirmed that people are generally sensitive to policies' costs, a result which sheds new light on prior studies. Most notably, taxes' exceptional unpopularity is a consequence of their being widely perceived as high-cost. Third, comparing across individuals, we found that political trust correlates with stronger support for most policies, though not all. Fourth, that relationship was strongest for policies with higher implied costs – including, though not only, taxes. This result is arguably the clearest validation yet of the theory that political trust shapes policy support by operating as a heuristic. It also suggests that taxes are widely perceived to be high-cost, due to people's political distrust, and that differences in the public support for different climate policies reflect perceptions of policies' net costs that are in turn functions of political trust.

Public support for climate policies

If the world is to have any chance of stopping climate change, governments will have to find ways of curtailing greenhouse gas emissions from a wide range of economic activities and sectors. A diversity of policy tools, with varying advantages and disadvantages, are available. Yet few studies, thus far, have examined which policies are more versus less acceptable to the public and are thus likely to be welcomed if governments try to introduce them in the future (Kallbekken 2023; Steg 2018). Notably, few papers have compared people's attitudes towards large numbers of different policies simultaneously (Tallent 2025), as we do here. To our knowledge, only Abou-Chadi et al. (2024), Dechezleprêtre et al. (2025), and Bergquist, Mildenerberger, and Stokes (2020) have compared more policies than our survey did. By including varying sets of policies, these studies and ours contribute knowledge about the relative popularity of different means policymakers might use to fight climate change.

In this section, we first discuss taxes as an important but somewhat exceptional climate policy. We then synthesize two existing approaches in the literature on climate policy attitudes, focused on policy costs and political trust. Prior studies have shown that attitudes toward climate policies are affected by people's perceptions of policies' costs. But where do such perceptions come from? We argue they reflect, in substantial part, political trust.

Taxes

In the literature on attitudes toward climate policies, one type of policy stands out for having been studied more than any other: taxation (Fairbrother 2022). One reason for this is that taxes are an easy policy to ask about in surveys, as virtually any respondent will be familiar with them. Other policies are often less well understood, and to inquire about them in a survey would require more explanation than would often be feasible. A second reason is that, from the point of view of many experts, one of the most effective and cost-efficient ways of discouraging pollution is making polluters pay to pollute, and in practice that means imposing a tax or requiring the purchase of permits (Gillingham and Stock 2018). If the world had to solve climate change with just one single policy, economists would probably recommend a high tax on every greenhouse gas emission (Stern, Ewald, and Stern 2024). (Tradable emissions permits are a near-equivalent, but are an example of a policy that is difficult to ask about in a public opinion survey.)

Economists' enthusiasm notwithstanding, however, a variety of studies have shown that, if confronted with proposals for new environmental (including carbon) taxes, most people respond negatively (e.g., Lachapelle, Borick, and Rabe 2012; Ross 2025). Such survey data are consistent with many real-world experiences of public hostility toward potential green tax increases – such as the *gilets jaunes* protests in France, the election of a new government in Australia that campaigned specifically to repeal a carbon tax, or voters' rejection of proposals for a new tax in the U.S. state of Washington (Driscoll 2021; Karceski 2022). In fact, surveys comparing support for different policies has consistently found taxes to be least popular (Axsen et al. 2020; Douenne and Fabre 2020; Rhodes et al. 2017). Public hostility to taxes is such that some scholars say policymakers should give up and look to other policies instead (e.g., Meckling et al. 2015; Cullenward and Victor 2020; Jaccard 2020; Stock 2020).

Some resistance to carbon taxes is due to people's disbelief in the reality and seriousness of global climate change (e.g., Tranter and Booth 2015). But skeptics about climate change, and about environmental problems generally, are rare: surveys consistently find that most people believe pollution, including climate change, is a real and serious problem (e.g., Andre et al. 2024). Nevertheless, despite widespread public hopes that governments will address climate change in principle, people are often hostile to many policies in practice. For example, though they opposed the specific policy response of a fuel tax increase, participants in the *gilets jaunes* protests did not generally reject climate science, or climate policies as a whole (Driscoll 2021). Concerns about climate change and other environmental problems do not therefore necessarily lead to support for given policy responses (Fairbrother et al. 2019), as also shown for example by the significant public opposition to recent proposals in Europe for phaseouts of gas domestic heating and of fossil fuel-powered cars (Mathiesen 2023). There is an urgent need for research to explain the disconnect between public recognition of the problem of climate change, on the one hand, and the weak support for specific policy responses, on the other (Kallbekken 2023; Smith and Mayer 2018).

Political distrust

One explanation provided by existing studies for this disconnect, at least with respect specifically to taxes, is political distrust. People who do not trust their country's politicians and public institutions have been shown in several studies to be much less supportive of environmental taxes (Fairbrother 2022; Klenert et al. 2018; Kulin and Johansson Sevä 2021; Rhodes et al. 2014; Smith and Mayer 2018). Since political distrust is commonplace (OECD 2022; Transparency International 2021), in many countries it is leading to prevalent public resistance to carbon taxes.

Political trust is a person's general orientation toward the officials and institutions governing them, leading to positive expectations about uncertain outcomes, and a willingness to accept even government actions that put them at risk or make them vulnerable in some way (Citrin and Stoker 2018; Hamm, Smidt, and Mayer 2019; Rudolph 2017). Taxes embody a risk, insofar as taxpayers could lose money for no corresponding benefit. People may suspect that politicians or public administrators routinely steal or waste public funds, whether out of incompetence, greed, or misplaced priorities. People may also believe the tax system requires that they themselves pay a lot of tax, while others get away without paying a fair share, or they could doubt claims that taxation helps shape behaviors (such as pollution mitigation) through incentive effects (Ewald, Sterner, and Sterner 2022). They could fail to consider that taxation is what allows the state to pay for desirable goods and services. Given all these possible beliefs, if people distrust government, then even if they are concerned about pollution, they could oppose new pollution taxes.

We do not know, however, whether the relationship between political trust and people's views of taxes also holds for other policies. Taxes might be exceptional, given that, as Martin, Mehrotra, and Prasad (2009: 3) put it, taxation is an "obligation to contribute money or goods to the state in exchange for nothing in particular." The level of trust required for an individual to be willing to make such a contribution is clearly high, whereas other policies might not require so much. Yet, to our knowledge, only two previous studies have tested whether attitudes toward non-tax climate policies differ between low- and high-trust individuals. Kitt et al. (2021) found mixed results in a study of support for five transport-related policies in Canada, and Davidovic and Harring (2020) mixed results using three items included in the 2016 European Social Survey (all three of which we included in the survey we used to generate the data we present here).

Policy costs

Aside from trust, a second approach that existing studies have employed to explain attitudes toward climate policies is cost (Drews and van den Bergh 2016; Tallent 2025). Prior studies have established that people are sensitive to policies and agreements' experimentally manipulated costs (Brannlund and Persson 2012; Bakaki and Bernauer 2017; Gaikwad, Genovese, and Tingley 2022; Harring, Jagers, and Matti 2019), and focus groups have found that people readily name cost as a key reason for opposing climate policies (Shwom et al. 2010). People therefore do not want to pay costs, including in the form of reduced growth and employment. Yet this, as explained earlier, is difficult to reconcile with the fact that taxation – perhaps

the lowest-cost policy of all in the eyes of experts – is significantly less popular than other climate policy options (see Sterner *et al.* 2024).

In focusing on costs, the literature on climate policy attitudes shares the focus of the broader climate politics literature, which has in recent years grappled intensely with questions about how, and with what consequences, the costs of climate policies are distributed within and across societies (Ross 2025). A number of studies have focused on how people's industry of employment, assets, or the industrial composition of the region where they live influences the costs that carbon taxes and/or other climate policies imply for them, and thus their attitudes toward such policies and/or their votes (e.g., Bolet *et al.* 2023; Colantone *et al.* 2024). Beyond public opinion research, other studies have examined how climate policies imply different costs for different industries and regions, with important political consequences (e.g., Colgan *et al.* 2021; Gazmararian and Tingley 2023; Mildenberger 2020). Such studies do not, however, speak to differences in the general public's *overall* support or opposition toward *different* policies. If costs matter, and given that policy experts say taxes are the lowest-cost policy, why in particular are taxes as broadly unpopular as they are? Economists presume that, because their costs are lower, taxes should be more acceptable to the general public than other policies – yet they are not.

One possible reason taxes are so unpopular is that they are widely *perceived* as higher-cost. The direct costs of taxation are obvious, whereas the costs of other policies are less so. Many people do not appear to recognize that public spending (including subsidies) must be paid for (Bartels 2005). Nor is it clear that people understand bans and regulations may impose indirect costs on consumers (Ross 2025: 173–4). Individuals with high levels of political trust, however, may be more likely to expect all types of policies to yield benefits that compensate, fully or at least partly, for their costs. Conversely, perceiving policymakers and public institutions to be competent, honest, and uncorrupt is likely to lead people to expect policies to be lower-cost relative to the benefits they provide. If individuals' views of different policies reflect what they think the net costs will be in practice, then – given widespread beliefs that public officials are untrustworthy – very different policies than experts expect will be most popular. Consistent with this interpretation, in an analysis of data from 23 European countries, Davidovic and Harring (2020) found that “using public money to subsidize renewable energy such as wind and solar power” (an item we replicated in our own survey) was far more popular than increased taxes on fossil fuels. Policy experts are not generally so supportive of subsidies, relative to taxes, specifically because they are not as cost-efficient (Gugler, Haxhimusa, and Liebensteiner 2021). But popular perceptions of policy costs may differ.

Perceptions of different policies' net costs should influence which policies individuals prefer, and more trusting individuals should be more confident that policies will achieve what advocates claim, and will therefore be net positives. People with low political trust may see taxation specifically as a relatively high-cost means of abating environment harms, given their beliefs that public officials routinely misuse – even misappropriate – tax revenues. On the other hand, people with high political trust may even accept to pay for policies with costs to themselves, but which they believe will help others, such as future generations (Fairbrother *et al.* 2021).

Political trust makes people less sensitive to policies' implied costs, as it increases their confidence the policies will have net benefits for someone, even if not for themselves. Previous research has shown that public attitudes toward climate policies strongly reflect whether people think the policies will work (Bergquist et al. 2022).

The very fact that support for different policies varies suggests people may perceive different policies to have different costs. Differences in support for different policies could be due, to some extent, to factors other than cost. But prior experiments have shown costs matter: Given that randomly varying implied costs changes people's views, we know preferences are reflecting perceptions of costs.

Political trust as a heuristic

Prior research suggests that all people will prefer lower-cost policies. But, in light of the above, the consequences of higher costs should be largest for the distrusting. And this is precisely an implication of the main theory that the literature provides for why political trust should affect *any* policy attitude. That theory holds that political trust operates as a heuristic, in the sense of a decision rule or cognitive shortcut guiding judgments that would be otherwise difficult, highly time-consuming, or even impossible to make (Devine et al. 2024; Rudolph 2017). Specifically, when considering a potential government action, what people think about it depends on what they think of the people and institutions advocating, planning, and executing the action – whether their claims about the benefits and costs of the action are credible, their competence is sufficient, and they will try to do as they promise (Fairbrother et al. 2021). Yet no prior study has tested whether experimental manipulations of policies' implied costs have more impact on people with less trust.

Given all the foregoing, aside from inductively testing the relative popularity of different policies, we hypothesize that:

H1: Policies are less supported when their implied costs are higher.

H2: People with lower political trust are less supportive of climate policies generally.

H3: The effects of implying higher costs are greatest for less politically trusting individuals.

We test these hypotheses, as we explain next, using data on attitudes a diversity of different climate policies – taxes, regulations, bans, and subsidies/spending. In assigning each of the 16 policies in our survey to one of these four categories, we employ a typology similar to those in prior studies (e.g., Beiser-McGrath et al. 2022; Ejelöv et al. 2022). Bans are total prohibitions on some specified activity or the use of a certain technology, with the goal of a complete cessation of the activity or use. Taxes allow some polluting activity to continue, but discourage it by raising its price to individuals or firms engaging in it. Subsidies use public money to encourage actions or the use of technologies that are environmentally preferable. (Subsidies

thus involve expenditures on the part of the state, while taxes provide the state with revenues.) Regulations are binding rules that apply to households and/or firms and allow for polluting activities within only specified limits and/or given the achievement of a certain level of environmental performance.

Most of the policies we referred to in the survey are component parts of the European Union's Fit for 55 package (on which see Schlacke *et al.* 2022). Others replicated items from two existing, established surveys: the 2016 European Social Survey or 2020 International Social Survey Programme (European Social Survey 2020; ISSP Research Group 2022). We included some policies that have very seldom, if ever, been previously investigated in public opinion research, such as carbon tariffs (also known in Europe as a "carbon border adjustment mechanism"); just transition assistance for workers; new nuclear power stations; the elimination of internal combustion energy cars; green financial assistance for developing countries; agricultural set-asides; and energy efficiency standards for buildings and vehicles. By including such a wide range of different policies, our analysis helps address questions about the variable prospects for implementing each of them, a core concern in the current literature (Ross 2025).

Data and methods

Sample

We designed an online survey, with embedded survey experiments, asking about people's support for or opposition to 16 different climate policies. We hired YouGov to field the survey, in Sweden, Spain, Germany, and Poland – one country in each of northern, southern, central, and eastern (postsocialist) Europe. The data were collected in mid-2021, on 6119 respondents: 1523 in Sweden, 1530 in Spain, 1527 in Germany, and 1539 in Poland. YouGov recruited respondents aged 18 and older from online panels, with sampling based on demographic quotas. The achieved samples cannot be taken as fully representative of each country's adult population, and we interpret differences in means cautiously. YouGov contacted respondents using e-mails that did not mention the topic of the survey, so the samples should be unbiased in terms of respondents' views about the survey's main themes.

We selected the four countries for their cultural, political, and institutional diversity, and because they differ substantially in their responses to the challenge of climate change. Judging by the most recent Climate Change Performance Index, for example, Sweden is a very high performer (ranked eighth out of 64 countries), Germany also scores highly (13th), Spain ranks 16th, and Poland ranks much lower (44th). Greenhouse gas emissions in 2022 were 5.9, 9.5, 7.1, and 10.6 tonnes per capita, respectively (CO₂-equivalent, not including land use, land-use change and forestry, based on data from the European Commission's Joint Research Centre). Among other achievements, most homes in Sweden use low-carbon district heating or heat pumps, and Sweden generates most of its electricity from climate-friendly sources (hydroelectric dams, wind, and nuclear). Germany has contributed a great deal to the global effort to confront climate change with its subsidization of solar panels and wind turbines, though in recent years it has resisted a possible EU-wide ban on sales of new internal combustion energy-powered vehicles. Poland has been

even more obstructive in European negotiations, for example lobbying against several proposed elements of the Fit for 55 package, and refusing to set a date by which it will stop burning coal to generate electricity. Spain only passed a general climate change law in May of 2021, but has subsequently moved quickly in closing down its coal-fired electricity generating stations. At the time of the survey, political leaders in Sweden, Germany, and Spain generally spoke positively of policies for decarbonization, while in Poland the governing right-wing parties often criticized them (Krzysztosek 2022; Szulecki et al. 2024). Given that elite cues influence public attitudes about climate policy (Brulle et al. 2012; Van Boven and Sherman 2021), we expect to find different patterns in Poland relative to the other three countries.

Experimental design

We used randomly assigned policy variants to assess the effects of manipulating a given policy's implied costs, or making its costs more transparent. The way we manipulated the implied costs varied substantially from policy to policy. In some cases, we highlighted costs that respondents might not otherwise consider, drawing attention to the market implications of a policy for consumers (e.g., efficiency standards raising the purchase price of a good). In other cases, the item wording described a somewhat different policy than the base variant. The formulations of the policy items, and the ways in which they were manipulated, are admittedly simplifications of many complex aspects of policy design. The main purpose was simply to provide strongly variable, albeit always reasonably plausible, indications of possible costs. For some items, for example, the relevant cost was the increased taxation required to pay for a public sector expenditure. We also measured respondents' support for a hypothetical new tax whose costs would be compensated or reduced, and so whose overall cost would be low. The 14 policies were presented in two blocks of seven (with the order for these 14 fully randomized), and then the final two policies (protected nature areas, nuclear energy) were in a separate block together.

Respondents assessed one randomly selected variant of each policy (1 to 4 versions, total $N = 38$). Some policies did not have multiple variants, and the variants of some policies did not differ in terms of (implied) cost. Not all policies had variable costs that we could readily explain in a single-sentence survey item. We tested whether the manipulations made more of an impact on individuals with lower political trust, by including a trust : cost interaction in our analytical models, as explained further below.

Variables

We measured the dependent variable, policy support, on a seven-point scale. Respondents were asked: "To what extent would you be in favor or against enacting the following policies in [COUNTRY]?" (Attitudes toward new nuclear power plants and protected nature areas were investigated slightly differently than the other 14 policies. For these two, respondents were asked "how strongly [they would] support or oppose" the policy.) In neither case did the survey specify the purpose of

any policy. Respondents could therefore express support not only because of concerns about climate change.

We measured our key independent variable, political trust, using scores from a factor analysis of responses to a 9-item battery of questions about the honesty, integrity, and competence of politicians in the respondent's country. The items were as follows:

"In general, how much would you say politicians in [COUNTRY] . . .

1. Tell the truth.
2. Are corrupt. (REVERSED)
3. Do their jobs well.
4. Do what they say they will.
5. Get into politics mostly for their own benefit. (REVERSED)
6. Take donations that change their priorities. (REVERSED)
7. Are competent and efficient.
8. Try to do their best to serve the country.
9. Consider citizens' concerns and demands."

Respondents answered on a five-point scale. Responses to these questions showed how prevalent political distrust is. For example, pooling across the four countries, the most common response about whether politicians tell the truth was the lowest category – "Not at all". And the second most common was the next lowest category, "A little". Such negative perceptions of politicians are consistent with prior research finding that most people believe politicians lie regularly (Naurin 2011). Cronbach's alpha for this index was 0.91 (calculated using listwise deletion).

To check that any relationship we find between political trust and policy support is not due to their common correlation with other variables, we fit statistical model controlling for a variety of other respondent characteristics. These include demographics (gender, age, and education level), left-right political ideology, nationalist attitudes, and being a supporter of a populist-nationalist political party. We include political ideology, as many studies have found that individuals with higher regard for free markets, less positive views of state intervention, and/or who self-identify as being right-wing are more hostile to climate policies (Dechezleprêtre *et al.* 2025; Weko 2022; McCright *et al.* 2016). We measured ideology using the survey item: "With respect to economic issues, where would you place yourself on a scale of 0 to 10, where 0 means the left and 10 means the right?" With respect to nationalist attitudes, prior research has found that individuals with such attitudes also tend to be more skeptical about climate change, and less supportive of climate policies (Kulin *et al.* 2021). We measured nationalist attitudes using an index constructed from responses to a three-item battery. And supporters of populist-nationalist parties are known to be much likelier both to distrust politicians and to disbelieve climate science (Huber *et al.* 2021; Werts, Scheepers, and Lubbers 2013). In the countries we study such parties are: Sverigedemokraterna in Sweden, Vox in Spain, Alternative für Deutschland in Germany, and both Konfederacja and Prawo i Sprawiedliwość (PiS) in Poland. As evidence for the distinctiveness of these parties, Alternative for Germany was the only political party to announce in the run-up to Germany's 2021 election that it would not try to limit climate change to 1.5° above

pre-industrial levels (Abadi 2022). In our sample, mean political trust differed between non-supporters and supporters of these neonationalist parties in each of the four countries by 1.0, 0.3, 0.7, and 0.2 in Sweden, Spain, Germany, and Poland, respectively. For Poland specifically, supporters of the PiS are more politically trusting, which is understandable as at the time of the survey the PiS were the governing party (Hajdinjak 2022).

We took party support from responses to the question “If a parliamentary election were held today, which political party would you vote for?” Respondents were coded as nationalist party supporters if they answered Sverigedemokraterna in Sweden, Vox in Spain, Alternative für Deutschland in Germany, or either Konfederacja or Prawo i Sprawiedliwość in Poland.

For nationalist attitudes, we used responses (on a five-point strongly disagree to strongly agree scale) to the following statements:

1. [COUNTRY] should limit the import of foreign products in order to protect its national economy.
2. [COUNTRY] should limit immigration in order to protect our national way of life.
3. International organizations are taking away too much power from the [COUNTRY NATIONALITY] government.

The overall correlation between political trust and self-reported left-right ideology was -0.01 , showing that political trust was substantively unrelated to political ideology on average. This varied significantly across the four countries, however, from -0.26 in Sweden to $+0.26$ in Poland (with Spain and Germany in between at -0.05 and $+0.01$, respectively). Political trust was more strongly (negatively) correlated with being a supporter of a nationalist-populist party (-0.22 , ranging from -0.48 in Sweden to -0.08 in Poland). And political trust also correlated (negatively) with nationalist attitudes (mean of -0.09 , ranging from -0.42 in Sweden to $+0.26$ in Poland).

Analytical models

We assess variation in individuals' attitudes toward different policies; variation in attitudes toward different (randomly assigned) versions of a given policy; and how such variation differs between more and less trusting individuals. To do so, we use mixed effects models, in which we treat up to 90848 responses as clustered within respondents. We therefore include random intercepts for respondents ($N = 5972$) and policies ($N = 16$), and for policy variants ($N = 38$). Responses are cross-classified within individuals and variants, with the latter in turn nested in policies. (There were 7056 missing responses, which we delete, and we use listwise deletion also for missing covariates.) The main results we present are based on analyses of pooled data from all four countries, though results for individual countries appear in the Supplementary Materials.

We use dummy variables as indicators for whether a given response was to a policy variant with highlighted or explicitly increased costs. We also include the mean value of this dummy at the policy level. Given this mean-centering, the

coefficient on “cost” reflects only a within-policy (between-variant) comparison. This therefore avoids the one potential downside of random effects models: the risk of correlation between some higher-level random intercepts and the mean of a lower-level variable (Oshchepkov and Shirokanova 2022).

We test an interaction effect between these variables – capturing variation in cost both across policies and across policy variants – and political trust. This is how we assess whether the trust gap varies depending on whether costs are emphasized or hypothetically reduced or compensated. The interaction, alternatively, captures whether the difference in support between versions with higher and lower implied costs is distinct for individuals with lower versus higher political trust.

We fit linear mixed models, using R and the lme4 package. Our statistical tests are all two-sided. The models, which also include country dummies, can be represented (here in simplified form without controls) as:

$$y_{ijkl} = \beta_0 + \beta_1 trust_j + \beta_{2l} cost_{kl} + \beta_3 trust_j : cost_{kl} + u_{0j} + u_{0k} + u_{0l} + e_{ijkl}$$

where $\beta_{2l} = \beta_2 + u_{1l}$

with subscript i indexing responses for individual policies, j survey respondents, k the 38 policy variants, and l the 16 policies. The variable cost is a dummy coded 1 for variants coded as costly. (Table 1 shows which variants we coded as costly.) The e_{ijkl} term is a residual error term, while each of the u_0 terms represents a vector of random effects, each assumed to have a mean of zero, with variances estimated from the data. Each of these random effects is important, given the clustering in the data at each of the three higher levels; not to recognize this clustering would lead standard errors to be underestimated and thereby generate anticonservative results. We include random slopes for lower-level variables in cross-level interactions, consistent with current methodological best-practice (Heisig and Schaeffer 2019), with the beta coefficient in the model above therefore given subscript l .

Results

Comparing across policies

Figure 1 shows the responses to each of the 16 policies, taking the average across the multiple variants of each policy and across the four countries. We assign policies to four general categories: taxes, regulations, subsidies/spending, and bans. As the figure shows, no category was uniformly popular or unpopular, though in general regulations were the most popular type of policy, followed by subsidies and bans, with taxes the least popular type.

Regulatory measures were three of the four most popular policies (fuel efficiency measures for vehicles and buildings, and a clean electricity requirement), while a set-aside regulation for agriculture was very unpopular. Among taxes, a general fossil fuel tax and a tax on plastic packaging were both very unpopular, while taxes on imports produced in polluting ways (carbon tariffs) appear to be more accepted. The high acceptance of tariffs may be due to the fact that this type of tax is paid by importers rather than consumers, even if it raises prices for consumers, and so few people recognize the implications to themselves of tariffs. Attitudes toward subsidies/spending policies are quite variable, with middling support for subsidies on renewable energy and electric cars. Green financial assistance for poor countries

Table 1. Support for policy variants

Policy	Variant	Variant wording	Mean	Trust	
				Low	High
1	a	A law to stop generating any electricity by burning fossil fuels as soon as possible.	3.8	3.6	4.0
	b	..., even if that raises the cost of electricity.	3.2	2.9	3.5
2	a	Using public money to subsidize renewable energy such as wind and solar power.	4.0	3.9	4.2
	b	..., and paying for the subsidies by raising personal taxes.	3.2	2.9	3.6
3	a	A law requiring car manufacturers to sell increasingly fuel-efficient cars.	4.3	4.3	4.3
	b	..., even if that makes cars more expensive to buy.	3.7	3.5	3.9
4	a	A total ban on the sale of any new cars that run on gasoline or diesel, within a few years.	2.8	2.4	3.2
	b	..., even if that makes new cars more expensive.	2.8	2.3	3.2
5	a	Taxes on imports of goods from countries with lower environmental standards.	3.7	3.5	3.8
	b	..., even if that makes goods more expensive.	3.6	3.3	3.9
	c	..., to protect [COUNTRY'S] businesses from unfair competition.	3.8	3.7	4.0
	d	..., to encourage those countries to raise their standards.	3.7	3.6	3.9
6	a	A law banning the sale of the least energy efficient household appliances.	3.8	3.7	3.9
	b	..., even if that makes appliances more expensive.	3.5	3.3	3.7
7	a	Helping and retraining workers who lose their jobs because of new environmental policies.	4.4	4.4	4.5
	b	..., and paying for that support by raising taxes.	3.4	3.2	3.7
	c	..., with the rest of us paying for that support.	3.7	3.5	3.9
8	a	Increasing taxes on fossil fuels, such as oil, gas and coal.	2.9	2.4	3.3
	b	..., if the government reduced other taxes you pay by the same amount.	3.4	3.1	3.7
	c	..., if the government promised to reduce other taxes you pay by the same amount.	3.3	3.0	3.7
	d	..., if the government used the money to send everyone in [COUNTRY] an equal monthly payment.	3.1	2.9	3.3
9	a	A tax on plastic packaging.	3.4	3.1	3.8
	b	..., if the money from the tax paid for more support for the elderly.	3.6	3.5	3.7
	c	..., if the money from the tax paid for more support the unemployed.	3.3	2.9	3.6
	d	..., if the money from the tax paid for more support people with low incomes.	3.4	3.3	3.6
10	a	A law requiring that more electricity be generated using clean energy sources, like solar or wind.	4.2	4.1	4.3
	b	..., even if that raises the price that consumers have to pay.	3.5	3.2	3.8
11	a	Regulations requiring new homes and other buildings to meet stricter energy efficiency standards.	4.1	4.0	4.2
	b	..., even if that makes them more expensive to buy.	3.6	3.4	3.9

(Continued)

Table 1. (Continued)

Policy	Variant	Variant wording	Mean	Trust	
				Low	High
12	a	Subsidies for the purchase of electric cars.	3.8	3.7	4.0
	b	..., paid for by new taxes on gasoline and diesel cars.	3.3	3.0	3.6
13	a	Requiring farmers to set aside some land and make it available as habitat for wild animals.	3.4	3.2	3.6
	b	..., even if that reduces the area available for growing food.	3.2	3.0	3.4
	c	..., even if that makes food more expensive to produce.	3.2	3.0	3.5
14		Providing financial assistance for renewable energy projects in Africa and other poorer parts of the world.	3.8	3.5	4.1
15		Reducing the size of [COUNTRY'S] protected nature areas, in order to open them up for economic development? (REV.)	4.5	4.7	4.3
16	a	Building new nuclear power plants to generate electricity?	2.7	2.9	2.5
	b	..., even if it is a costly way to generate electricity?	2.7	2.8	2.6

The final two columns show the mean response for each policy variant, for individuals with lower- and higher-than-median political trust. Policy variants coded as costly are shown in red.

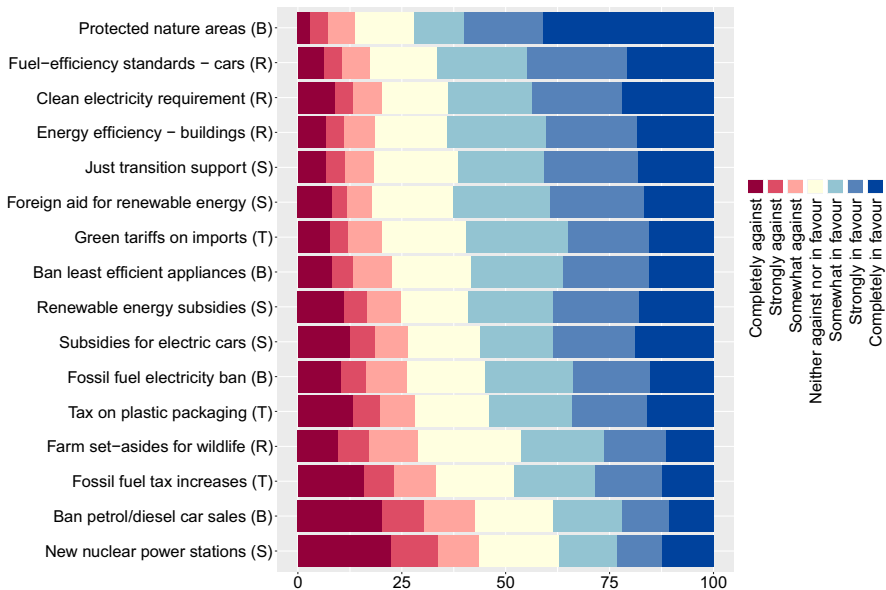


Figure 1. Attitudes toward 16 climate policies. Policies are classified as (B) bans, (R) regulations, (S) subsidies/spending, and (T) taxes. Support is strongest to weakest from top to bottom. Data from four countries combined.

is fairly popular, and just transition assistance for workers is also strongly supported. Spending on new nuclear power stations, on the other hand, is the most unpopular policy of all. Finally, support for different kinds of bans varies a great deal. A total ban on cars powered by fossil fuels was the second least popular policy overall, while maintaining nature protected areas (where there is a ban on economic activities) was the single most popular policy. The hypothetical ban on inefficient appliances (an item replicated from the European Social Survey) fell in the middle, as did a ban on the generation of any electricity from fossil fuels.

Comparing policy costs

Next, Table 1 compares responses to different, randomly assigned versions of questions about given policies. This allowed us to assess the effect of emphasizing or varying a given policy's cost. In general, Table 1 shows that costs had the expected impact. For most policies, highlighting costs reduced support by at least half a point (on a 0 to 6 scale), albeit with some exceptions. Pointing out that a ban on inefficient household appliances might mean appliances cost more to buy had only a small impact; respondents may have thought that a higher purchase price would be offset with cost savings from efficiency gains. In the case of attitudes toward taxes on imports, also, making reference to costs made only a small difference. And referring to the potential cost of a ban on fossil fuel-powered cars made no difference to the already low support for this policy. The opposition to this policy may be due to a different factor than cost, such as perceptions that electric cars are inconvenient.

With respect to policies requiring farm set-asides and new nuclear power, referring to costs also had little or no effect. Respondents may have thought the costs of these policies would be paid by producers rather than consumers and may not have considered that producer costs might be passed on to consumers. With respect to nuclear energy, they may have been more influenced by concerns about the risks of the technology, rather than costs.

With respect to an increase in fossil fuel taxes, we manipulated the original wording to imply the hypothetical tax increase would be compensated by lowered costs elsewhere. Unlike all the other policies, in this case we expected the base version to be less popular than the modified versions, because the former appeared higher-cost. We found respondents' views were consistent with this expectation. In general, Hypothesis 1 was supported for many though not all policies.

Political trust and policy support

The two right-most columns of Table 1 break down the mean support for each policy variant among individuals with either higher- or lower-than median political trust. In almost every row, support is higher among individuals with higher-than-median political trust. The only clear exceptions are for a policy of *reducing* protected nature areas (i.e., allowing more economic activity in such areas) and building new nuclear power plants. In the case of nature protected areas, exceptionally, respondents were asked about their agreement with an *anti*-climate policy. Here, higher-trust individuals were more open to economic development, rather than maintaining protected areas in their existing form. And the politically trusting were also less supportive of new nuclear energy, a difference for which there is no obvious explanation. Overall, our Hypothesis 2 was supported, for almost all policies and variants. That said, the differences between low- and high-trust individuals (averaging across individuals either below or above the median level of trust) are modest.

Interacting political trust and implied cost

The two right-most columns of Table 1 allow us to assess whether, for any given policy, emphasizing costs had a larger impact on either type of respondent. Conversely, these columns also allow us to assess whether the difference between the views of more versus less trusting individuals is greater for policy variants with higher implied costs. For almost all policies, as we expected, the effect of emphasizing cost or describing a more costly policy was larger for lower-trust individuals, and the trust gap was greatest for higher-cost variants.

For a policy of increasing taxes on fossil fuels, there was more of a trust gap for the base variant, and *less* of a gap for versions describing a compensated increase. Yet in this case, also, trust made more of a difference to attitudes toward policies with higher implied costs.

To test for the overall relationship between cost and policy support, and whether the effect of emphasizing cost varies across individuals with different levels of political trust, we fit a series of statistical models shown in Table 2. These models include various combinations of variables capturing the difference between support

Table 2. Models of respondents' support for 16 climate policies

Model	0	1	2	3
Cost		– 0.34** (0.10)	– 0.35** (0.10)	– 0.34** (0.09)
Political Trust			0.20** (0.02)	0.13** (0.02)
Cost : Political Trust			0.21** (0.01)	0.21** (0.01)
Male		– 0.21** (0.03)		– 0.12** (0.03)
Education Low		– 0.12** (0.03)		– 0.04 (0.04)
Education Medium		– 0.14** (0.04)		– 0.07 (0.04)
Age 30–39		– 0.15** (0.05)		– 0.08 (0.05)
Age 40–49		– 0.08 (0.05)		– 0.02 (0.05)
Age 50–59		– 0.04 (0.05)		0.06 (0.05)
Age 60+		– 0.11* (0.05)		0.06 (0.05)
Nationalism				– 0.26** (0.03)
Ideology Right				– 0.09** (0.01)
Nationalist Partisan				– 0.57** (0.05)
(Intercept)	3.56** (0.11)	3.80** (0.20)	3.05** (0.20)	3.85** (0.21)
Country dummies			Y	Y
Mean of cost	Y	Y	Y	Y
Random	Individual	1.15	1.13	0.99
Effects	Variant	0.09	0.03	0.03
Variances	Policy	0.13	0.25	0.23
	Cost		0.08	0.07
	Residual	2.11	2.10	2.12
N (observations)		89686	88923	67246
N (individuals)		5885	5809	4333

Multilevel models of responses toward 38 policy variants and 16 policies. Standard errors are in parentheses. Random effects variances are for intercepts at the individual, policy, and policy variant levels. Models 1, 2, and 3 also include random slopes for the coefficients capturing costly policy variants. ** $p < 0.01$; * $p < 0.05$.

for policy variants that are apparently costly versus cost-less; individuals' demographic characteristics; and their political trust and select background attitudes.

Model 0, a null model with no covariates, shows that individuals tend to have variable opinions about different policies (as the residual-level variance is greatest). But they also tend to provide generally more or less supportive responses for all policies, with one-third of the variance at the individual level. Model 1 estimates the effect of emphasizing a policy's cost in some way, plus coefficients on demographics. Support for different variants of a given policy varies significantly, with costly

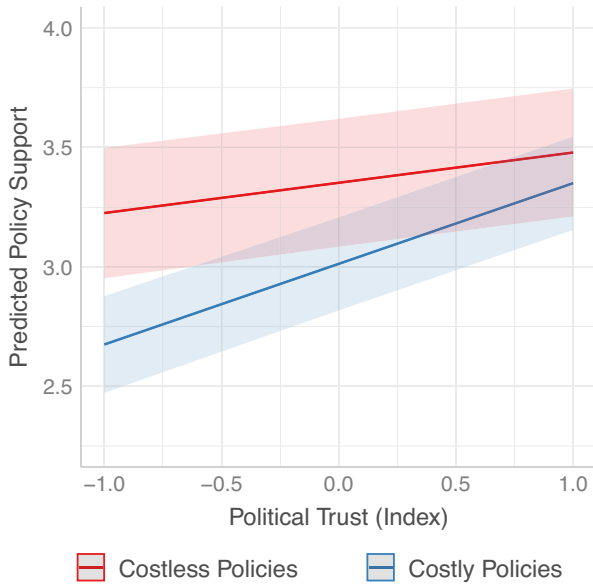


Figure 2. Predicted support for costly and costless climate policies, for individuals with different levels of political trust. Based on Model 3, Table 2.

variants about one-third of a point less popular. This model also shows that men, respondents with less education, and those aged 30–49 years, reported less policy support. Models 2 and 3 test for differences across individuals with different levels of political trust. Both models show there was a statistically significant trust gap, with high-trust respondents being generally more supportive of climate policies. (In the models, unlike in Table 1, political trust is not measured dichotomously. We also tried conducting this analysis using a different index for political trust, comprising a series of responses about how much the respondent trusts a series of institutions or groups – see the Supplementary Materials – and the results were substantively the same.)

Using trust–cost interactions, we examined how the effect of varying a policy’s implied cost varied across individuals with different (low or high) levels of political trust. The coefficients on the interaction effects in both Models 2 and 3 confirm that highlighting cost has a greater impact on individuals with lower political trust. Our Hypothesis 3 was therefore supported. Predictions from Model 3, shown in Figure 2, illustrate the strength of the relationship. Individuals with high political trust are almost as supportive of costly policies as they are for apparently costless policies, whereas for individuals with low political trust there is a significant divide. Conversely, for variants not mentioning costs, political trust makes little difference.

Contrasting Models 1 and 3 shows that controlling for various political attitudes as predictors substantially attenuates the relationship between demographic predictors and policy support. Men, individuals with less education, and individuals aged 30–49 years are more likely to be politically distrusting, subscribe to right-leaning ideologies, hold nationalist attitudes, and support neonationalist parties.

Respondents with each of these characteristics were less supportive of climate policies, consistent with past studies (Weko 2022; McCright et al. 2016; Kulin et al. 2021; Huber et al. 2021). Comparing the models in these columns shows however that including many control variables does not change our key results for the effects of highlighting policies' costs, nor the interaction between this treatment and political trust.

There are some national differences (see also the Supplementary Materials). In particular, politically trusting individuals in Poland were *less* supportive of some policies. That may be because Poland's nationalist government at the time of the survey was under pressure from the EU to enact some climate policies, and members of the government were speaking out loudly against that pressure. Individuals who trusted the government were therefore taking cues to oppose climate policies (Krzysztozek 2022; Szulecki et al. 2024), whereas the opposite was generally the case in the other three countries. Another notable difference was that nuclear power was fairly popular in Sweden, much more so than in the other three countries (where new nuclear power was one of the least popular policies – and least popular of all in Spain and Germany). Nevertheless, in general, our main findings hold across the four countries. In particular, overall, we found a greater political trust gap for policy variants in which cost is emphasized, or is greater. Conversely, the effect of highlighting cost was greater for individuals with low political trust (see Supplementary Materials). That said, in separate models by country, the direct effect of political trust was not significant for Poland and Spain. In all four countries, on the other hand, the interaction between political trust and policy cost was positive and statistically significant.

We also investigated which of the political trust items are driving the key results. In a series of nine models replacing the political trust index with individual political trust items (see Supplementary Materials), we find that all but three of the nine items show broadly similar relationships with the outcome as in Model 3 in Table 2 – both direct effects, and in interaction with cost. The three exceptions are the three items in which higher scores signify *lower* trust (versus all the rest, for which higher scores signify higher trust).

Conclusions

Public attitudes are shaping policymakers' efforts, or their lack of effort, to mitigate climate change. But few studies have examined public attitudes toward many policies that experts suggest will be vital in the years to come. And it has been a puzzle why those studies that have compared attitudes toward different policies have found public preferences to be what they are – most notably, exceptionally hostile to taxation. Our study is a response, with the purpose of better illuminating the differing public support for different policies.

Among respondents in four European countries, we found that regulations are the most popular type of climate policy, taxes the least, and bans and subsidies in between – albeit with substantial variation across policies within any of these four categories. With respect to the relative popularity of different policies, preferences reflect cost perceptions, which are in turn influenced by political trust. The public's

notable dislike of taxes appears to be due to widespread perceptions that the costs of taxes in practice are relatively high, compared to other policies. That people become less favorable toward many non-tax policies when the costs are highlighted suggests they do not perceive these costs otherwise. Conversely, the fact that support for green taxes increased when we suggested that the cost of a new tax would be accompanied by cuts to other taxes suggests that many people, by default, implicitly see taxes as only costs. If they expected new green taxes to be offset, or even the revenues of green taxes to be put to excellent uses they support, then specifying this feature would have made no difference. When we highlighted non-tax policies' costs, or suggested that the cost of a new tax would be compensated, attitudes changed noticeably; those toward taxes became unexceptional.

People's aversion to policies' implied costs, and the costs they perceive, therefore help explain much of variance in the popularity of different policies. Our study is not the first to show that people are sensitive to policies' costs, but we have provided new evidence about where people's cost perceptions come from: their levels of political trust. No prior study has tested for an interaction between individuals' background political trust and policies' experimentally manipulated implied costs. The interaction effect we found is strong new evidence for the influential theory that political trust operates as a heuristic. If policies' implied costs are lower, individuals' trust (or lack thereof) becomes less relevant. If implied costs are high, as for taxes without offsetting cuts to other taxes or for policies whose costs are clearly emphasized, then trust is highly relevant.

While people (and distrusting people especially) are in most cases sensitive to costs, we also found that for some policies (those where inconvenience or safety were perhaps greater concerns) cost was not so consequential. Cost was also less consequential for individuals with high political trust, who may be more confident policies will yield benefits making them worth the cost. Individuals with high political trust may be more willing to believe what advocates say about the merits of any policy – a possibility suggested by the fact that such individuals reported higher support for the one *anti*-climate policy in our survey: opening up nature protected areas to increased economic development.

For policymakers and climate action advocates, our findings – which were broadly consistent across the four countries we studied – suggest that while Europeans want action on climate change, many are reluctant to pay much of a price for it, particularly the many who do not trust political elites and institutions. On the other hand, we also find that, partly because their costs are not so widely recognized, some policies are surprisingly popular (such as regulations for greater energy efficiency), and in a variety of national contexts. As such, while honestly acknowledging what costs there are, policymakers and climate action advocates might do well to pursue policies whose costs are less visible. They would also benefit from explaining how low the costs of many climate policies – including carbon taxes – actually are (Bergquist and Warshaw 2023). Even advocates often suggest that sustainability transitions will mean massive economic inconvenience and upheaval, which is arguably an exaggeration of the likely costs of better climate and environmental protection. Judging by our results, such messages will make it harder to pass new environmental laws. It is likely to be more helpful to focus on convincing people about policies' (including existing policies') effectiveness, co-

benefits, affordability, and fairness. (It would be useful for future research will need to investigate this further.)

Some policies are clearly more likely than others to provoke public opposition. Perhaps most notably, it has been so difficult to enact and maintain carbon taxes (Ross 2025) that some experts say policymakers should give up and not even bother trying to enact them (Cullenward and Victor 2020; Jaccard 2020; Stock 2020). Though spending revenues on offsetting rebates or cuts to other taxes have sometimes been proposed as means of making such taxes more acceptable to the public, not all studies have been so encouraging about this strategy. Mildemberger et al. (2022) for example found the revenue-neutrality of two real-world carbon pricing systems, in Canada and Switzerland, had little if any positive impact on public acceptance of those systems. Our study suggests some reason to believe the politics of carbon pricing are not quite so hopeless, however, and measures for increased pricing may not be a lost cause: Insofar as the concept of revenue-neutrality can be conveyed to the public, we found that in four different countries many people appear to be as accepting of carbon taxes as they are of other policies. Still, in the countries we investigated, people were generally more hostile toward taxes than toward other policies. This suggests that policymakers seeking to reduce greenhouse gas emissions would be wise to relinquish their commitment to carbon pricing, notwithstanding the relative economic benefits of pricing. Considering the relative popularity of the 16 policies in our survey, we can discern a general pattern – broadly consistent across countries – that costly policies are less popular than policies without apparent costs (such as energy efficiency measures).

Finally, our results help reconcile the contradiction between what some surveys suggest to be widespread public enthusiasm for climate policy action in principle, and the widespread public hesitancy that often confronts specific policies when they are up for consideration in practice. Public opinion surveys sometimes ask about policies whose costs are not widely recognized, and the surveys do not clarify the policies' costs. For example, using an item we replicated in our survey here, the 2016 European Social Survey found very high support for "a law banning the sale of the least energy efficient household appliances." Presented like this, the policy holds much appeal. But in real public debates over potential new climate policies, policies' costs receive much more emphasis, and public acceptance of those costs is consequential for policy outcomes. Since political distrust undermines support for policies whose costs are recognized, and political distrust is widespread, popular support for many policies thus tends to be lower than surveys suggest. Even promises to compensate people for the costs of climate policies may have little effect, due to distrust (Gazmararian and Tingley 2023). This is especially important to confront given how prevalent political distrust is (OECD 2022; Transparency International 2021), and that people who trust politicians are a shrinking minority (Valgarðsson et al. 2025).

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S0143814X25100822>

Data availability statement. This study was reviewed and approved by the Swedish Ethical Review Authority (application 2021-01562). Since the data contain sensitive personal information (political opinions), as defined by the EU General Data Protection Regulation, we were compelled in our application to the Swedish Ethical Review Authority to commit not to make the data publicly available.

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Competing interests. The authors declare no competing interests.

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