Does information help to overcome resistance to carbon pricing? Evidence from a survey experiment*

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Abstract

We document attitudes towards climate change and carbon pricing and study whether information affect policy views shortly before the introduction of the German carbon price. Using a survey experiment, we show that despite high climate change awareness, support for the carbon price is low. We also show that informing respondents about efficiency gains or emission levels and carbon prices outside Germany can change their views. Highlighting measures to offset the regressive nature of the carbon price is not effective. Furthermore, we find that the effectiveness of the information interventions depends largely on trust in the government and climate change awareness.

JEL Classification: D72, D83, D91, H23, Q58

Keywords: Climate change, climate policies, carbon pricing, information, survey experiment

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1 Introduction

Climate change is one of the greatest challenges of our time. According to the Intergovernmental Panel on Climate Change (IPCC), human caused emissions have led to an increase in the global mean surface temperature of about 1.0℃ since the beginning of industrialization. To keep global warming below 2.0℃ and thus reduce the risks to natural and human systems, global emissions need to be reduced significantly (IPCC, 2021, 2022). Therefore, governments around the world are trying to take action by implementing effective policies to mitigate the effects of climate change.

From a societal perspective, most economists agree that carbon pricing is an efficient tool to reduce emission levels and thus an essential component of climate policy (Stiglitz et al., 2017). Yet, carbon pricing often faces strong public opposition due to, e.g., individual economic considerations or fairness concerns (Carattini et al., 2018, 2019). Since the effective implementation of cost-intensive policy measures strongly depends on the degree of public support (Cherry et al., 2012; Sælen & Kallbekken, 2011), it is important to understand how support for carbon pricing can be increased.

In this paper, we examine people's climate change awareness and their attitudes towards carbon pricing. In addition, we study whether providing different economic information alters their views in the context of a real word policy. To this end, we conduct an online survey experiment in a representative sample of the German voting population in December 2020, i.e., a few weeks before the German government introduced a national carbon price in the heating and transport sector. Our experiment proceeds as follows. In the vein of Ferrario & Stantcheva (2022), we first use open-end questions to elicit respondents' first-order considerations regarding carbon pricing. We then explicitly measure respondents' support as well as their attitudes towards climate change. Subsequently, we randomly assign our respondents to a control or one of three treatment groups. The *Efficiency treatment* provides respondents with information on the negative externalities of carbon emissions, the polluter pays principle, and the intention to provide financial incentives for individuals and firms to change their behavior. The *Redistribution treatment* informs respondents about the regressive effect of carbon pricing as well as the potential to ameliorate this effect through revenue recycling—both in general terms and in the specific German context. Respondents in the *Comparison treatment* receive information about global per-capita emission levels and national carbon pricing initiatives in other countries. In the final step of our experiment, we ask respondents questions about their perceptions of and their attitudes towards carbon pricing. The control group has to answer the same questions without receiving any information.

Several findings emerge from our study. First, we find that the majority of our respondents is aware of climate change and considers it a serious problem. At the same time, however, a significant proportion of respondents appears to be unaware of argu-

ments in favor of carbon pricing, which is consistent with the relatively low support for the introduction of the German carbon price *prior* to our information treatments. Second, our results suggest that providing information can affect people's policy views: while respondents across all treatments substantially change their perceptions of carbon pricing in response to the information, the *Efficiency* and *Comparison treatment* also have a positive effect on respondents' support. Specifically, we find that the two information treatments increase support (measured on a continuous scale) by 3 and 2 percent respectively. Moreover, both treatments change respondents' views of other people's support and thus the perceived social norm. In contrast, providing information on the distributional implications of carbon pricing, including the purpose and design of revenue recycling in the German context, does not affect respondents' support for carbon pricing. Finally, a heterogeneity analysis reveals that the effects vary across different subgroups of the population. For example, we find suggestive evidence that, while not all, those respondents who benefit more from the redistribution of revenues do respond to information about the distributional aspects of the German carbon price. Moreover, we find that the effectiveness of all information treatments depends largely on individuals' trust in the government as well as their climate change awareness.

This study adds to a recent string of literature that uses information survey experiments to study people's beliefs and their policy attitudes.[1] For instance, several studies investigate, how providing information affects people's attitudes towards immigration (Dylong & Uebelmesser, 2020; Grigorieff et al., 2020), their support for education and distributive policies (Alesina et al., 2018; Kuziemko et al., 2015; Lergetporer et al., 2020), or their preferences for government spending (Roth et al., 2022). In addition, a few recent papers have used information provision experiments to experimentally investigate people's beliefs and their policy attitudes in an environmental context (see, e.g., Andre et al., 2021; Carattini et al., 2017; Douenne & Fabre, 2022; Mildenberger et al., 2022).

Our information treatments explicitly aim to improve people's understanding of the economic arguments for, or mechanisms behind, carbon pricing. Thus, two of our informational treatments contain simple but accurate explanations of specific aspects of carbon pricing. In this regard our work is closely related to Stantcheva (2021), who studies how people reason and learn about income and estate taxes in the U.S. Closest to our study is a working paper by Dechezleprêtre et al. (2022). Using surveys on more than 40,000 respondents in twenty countries, the authors examine the understanding and attitudes towards climate change and different climate policies. In accordance with previous literature on the acceptability for carbon pricing, the authors find that people's support for a given policy hinges on the perceived environmental effectiveness, the perceived implications for lower-income households, and the perceived impact on their own

[1] For details on the methodology and a review of the literature see Haaland et al. (2023).

household.[2] In addition, they find that explaining how policies work as well as emphasizing who can benefit from these policies can increase support. Information on the impacts of climate change, however, does not affect public's views on climate policies. In contrast to Dechezleprêtre et al. (2022), we focus exclusively on carbon pricing and the German context. This allows us to study perceptions and attitudes towards a policy measure that is about to be implemented and thus affects people in the immediate term. Furthermore, our paper explores how information about carbon pricing affects respondents from different subgroups of the population, which is useful for drawing conclusions about the effectiveness of information interventions more generally.

The remainder of the paper is organized as follows: Section 2 describes the survey administration, the final sample, and the survey design. Section 3 studies respondents attitudes towards climate change and support for carbon pricing *prior* to the information treatments. Section 4 analyses the impact of information on people's policy views and explores heterogeneous treatment effects. Section 5 concludes.

2 Experimental design

2.1 Data collection and final sample

We collected our data in December 2020 using the commercial survey company *Respondi*. This survey company maintains a panel of German respondents to whom it emailed our survey links. In addition to the link, the email contained information about the duration of the survey and the payment for full participation. Those panelists who responded to the email were first directed to a welcome page before they needed to answer three screening questions that ensured our sample is representative in terms of age, gender, and income. Our final sample consists of 3589 participants, excluding those who completed the survey too quickly.

Table 1 shows the characteristics of our sample and compares it to the German population. It becomes evident that our sample is not only representative along the targeted dimensions, but also broadly comparable along other dimensions, such as the share of employed, the share of unemployed, or the share of individuals with low educational attainment. Moreover, the differences between our sample and the general population in terms of political attitudes are generally small. Exceptions with regard to the representativeness of our sample are a higher share of "Green" voters and university-educated individuals, which is a common phenomenon in online surveys (see, e.g., Stantcheva, 2023).[3]

[2]For a comprehensive review of the literature on the acceptability of carbon pricing see Carattini et al. (2018), Klenert et al. (2018), and Maestre-Andrés et al. (2019).

[3]To address concerns about the external validity of our main results, we use data from the Federal Statistical Office and create weights based on the following cells: gender (2) x age over 45 (2) x university

Table 1. Comparison of the final sample with the German population

	German population	Final sample
	(1) Mean	(2) Mean
Female	0.51	0.50
18-29 years old	0.20	0.19
30-39 years old	0.19	0.19
40-49 years old	0.18	0.18
50-59 years old	0.24	0.25
60-69 years old	0.19	0.19
HH income: 0-1,499€	0.16	0.15
HH income: 1,500-2,499€	0.23	0.23
HH income: 2,500-3,999€	0.33	0.34
HH income: 4,000€ +	0.28	0.28
No degree/basic degree	0.04	0.05
University degree	0.23	0.35
Employed	0.62	0.69
Unemployed	0.05	0.08
German	0.88	0.94
Living in rural areas	0.20	0.17
Political pref.: CDU/CSU	0.33	0.27
Political pref.: SPD	0.21	0.16
Political pref.: Grüne	0.09	0.19
Political pref.: AfD	0.13	0.10
Political pref.: FDP	0.11	0.07
Political pref.: Linke	0.09	0.11
Political pref.: Other	0.05	0.06
Political pref.: Not specified	NA	0.05

Notes: This table displays statistics for the overall German population and compares it to the characteristics of the final sample. Except for the information on household income, national statistics are provided by the Federal Statistical Office and the Federal Institute for Building, Urban Affairs and Spatial Research. For reasons of data availability, information on income classes was provided by Respondi in December 2020 and was taken from the *b4p 2019 III* survey conducted by the Gesellschaft für integrierte Kommunikationsforschung (GIK).

We have taken several steps to ensure the best possible data quality. First, at the beginning of the survey we ask participants to answer the questions carefully and honestly. We also emphasize that they will only receive the full payment if they submit a fully completed questionnaire. Second, we track the time spent on the survey (the median time is 15 minutes), identify inattentive respondents, and collect respondents' self-reported effort. For our main analyses, we exclude respondents who completed the survey too quickly. That is, we drop respondents in the bottom 5% of the survey time distribution per experimental group. Yet, there is little difference in our qualitative results when we do not drop these "speeders". The same is true when we additionally drop respondents

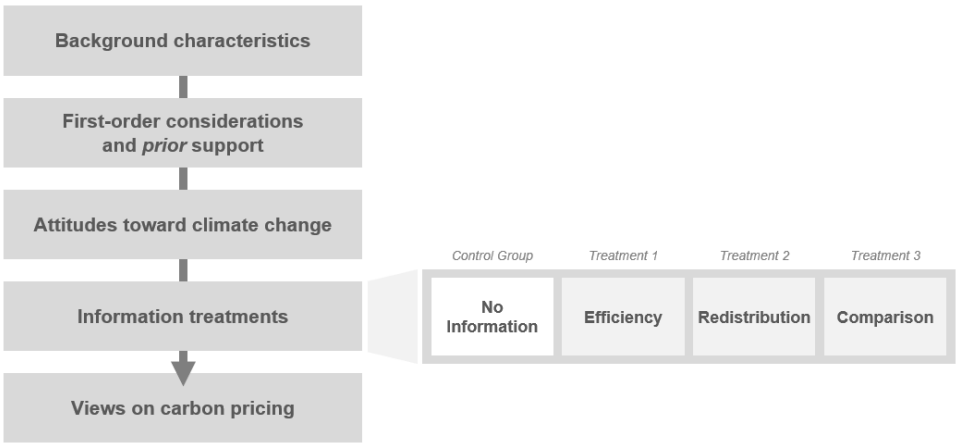
degree (2). Since reweighting does not change our main findings (see Appendix A.1.2), we focus on the unweighted regression results in the rest of this paper.

who fail the attention check or indicate that they made little effort (see Appendix A.1.3 and A.1.4). Finally, we also take a closer look at the level of attrition. In total, 6.34% of respondents drop out voluntarily at some point during the survey. Thereof, 32% drop out during the socio-economic questions, i.e., before they were told about the survey topic.[4] In Table A1, we also test for differential attrition by regressing indicators of whether an individual dropped out in general (column 1), after the socio-demographic questions (column 2), or after learning about the topic (column 3) on a variety of background characteristics and treatment group indicators. We find only small differences in attrition, if any. Most importantly, we do not find large differences in attrition between treatment groups.

2.2 The online survey experiment

As shown in Figure 1, our survey consists of five sections, three treatment groups and one control group. In the following we provide details on our survey design. An English version of the full questionnaire as well as the original German questionnaire are provided in Appendix A.3 and A.4.

Figure 1. Overview of the survey flow



Background characteristics First, we ask respondents questions about basic socio-demographic characteristics, including their gender, age, household income, level of education, employment status, marital status, number of children, migration background, state of residence, and size of the place of residence. Moreover, we collect data on respondents' political attitudes including their political affiliation, a self-assessment of their political knowledge as well as their trust in the government.

[4]To avoid selection into the survey, neither the email containing the survey link nor the welcome page provided any information about the purpose or content of the survey.

First-order considerations and *prior* support To ensure that all participants have at least the same minimum level of knowledge about carbon pricing and its implementation in Germany, we provide everyone with a brief introduction to the topic. Specifically, we say: *"Carbon pricing is a climate policy measure that requires payments for every ton of carbon emitted. While such a carbon price has already been in place for most parts of the energy and industry sector at the European level since 2005, there will also be a price on emissions generated by the heating and transport sector in Germany as of January 2021."* We deliberately keep the description very general in order not to overwhelm participants at the start of the survey and risk losing them. For example, we do not go into detail about the design of the German carbon price, which, after an introductory phase, involves the sale of carbon certificates in a national emissions trading system. Nor do we discuss the other climate protection measures which, like the national carbon price, are part of a wider climate protection program in Germany (Bundesfinanzministerium, 2019a,b).

We then follow Ferrario & Stantcheva (2022) and gather respondents' first-order considerations by asking about the first thoughts, the advantages, and the disadvantages that come to their minds when thinking about the introduction of the German carbon price. To avoid pushing respondents in any direction, we make use of open-end questions and encourage respondents to write as much as they like. Thereafter, we explicitly ask respondents whether they support the introduction of the German carbon price.

Attitudes toward climate change In the next part of the survey, we measure respondents' climate change awareness by asking whether they agree that global warming exists, that it is (among others) human-caused, that global warming has serious consequences, and whether they agree that scientists exaggerate the dangers of climate change. We, furthermore, ask how worried they are about global warming.

Information treatments Subsequently, we randomly assign respondents to a control group or one of three treatment groups. Each of the treatment groups first receives a text explaining a specific aspect of carbon pricing. To reinforce what they have read, participants are then given an accompanying graphic illustration that summarizes the text in a simplified form. Figure 2 depicts these graphical illustrations of each information treatment. An English version of the written text is provided in Appendix A.3.5. The control group receives no information.

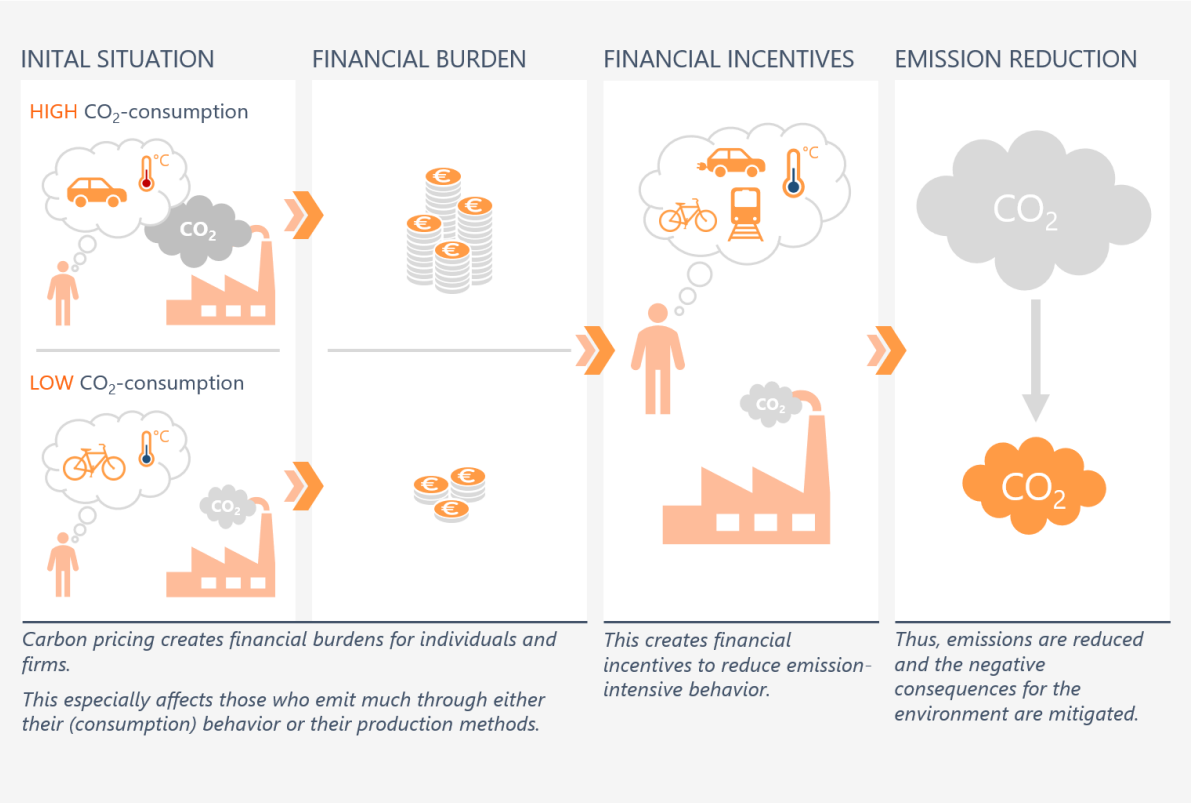
The *Efficiency treatment* first explains that carbon pricing makes emission-intensive behavior more expensive and thus creates a financial burden for both individuals and firms. It also explains the negative external effects of carbon emissions and the idea of the polluter pays principle. It then emphasizes that carbon pricing creates financial incentives to reduce emission-intensive behavior and provides concrete examples (see Figure 2a). It

thereby addresses behavioral responses to carbon pricing and thus highlights potential efficiency gains.

The *Redistribution treatment* informs respondents about the regressive nature of carbon pricing. It also explains that carbon pricing leads to government revenues that can be used to reverse these disadvantageous distributional effects through, e.g., lump sums or other tax reductions (see Figure 2b). It then provides information on how the German government plans to spend the revenues from the national carbon price, namely by reducing energy prices, increasing commuter tax allowances, and increasing rent subsidies for low-income citizens.[5].

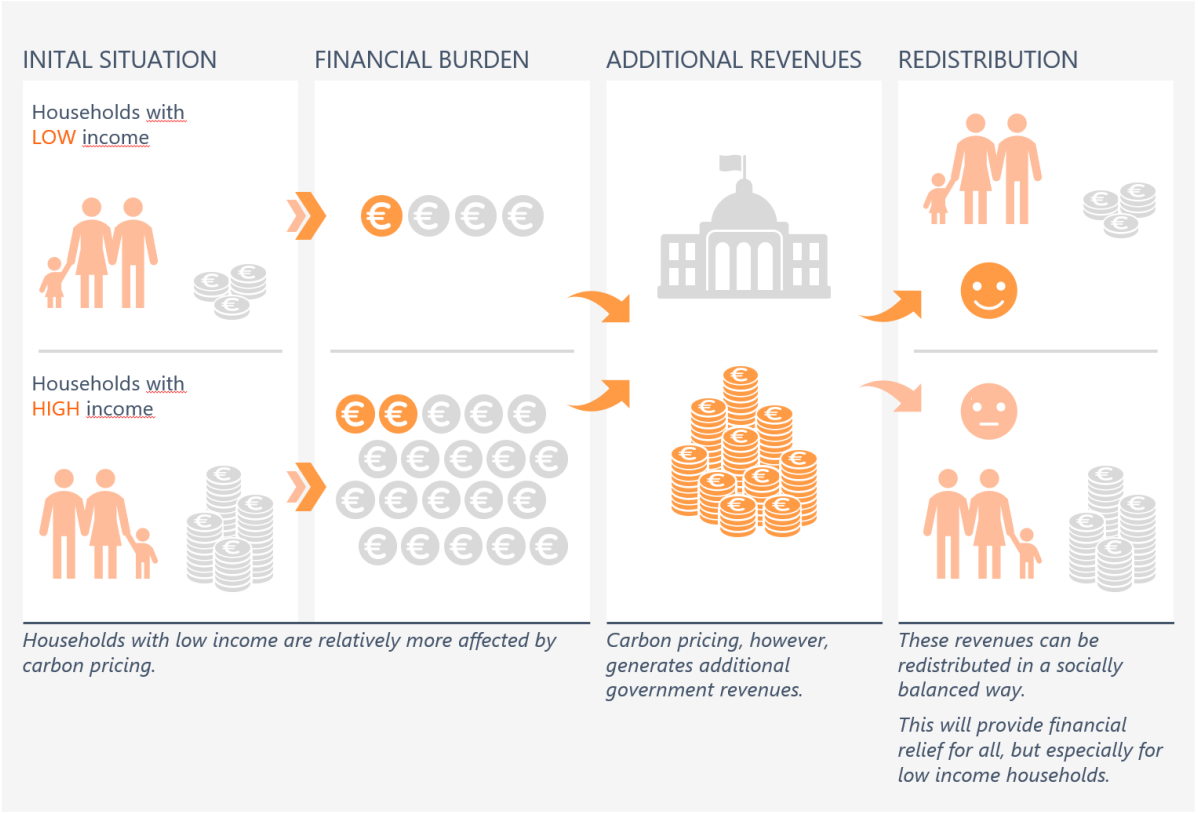
The *Comparison treatment* provides social information. Specifically, it informs respondents about per capita emission levels in Germany and compares it to other countries such as China, the U.S., or other European member states. Moreover, it provides information on the number of European member states that already have a national carbon price in addition to the European Emissions Trading Scheme at the time of the survey (see Figure 2c).

Figure 2. Graphical illustration of the information treatments

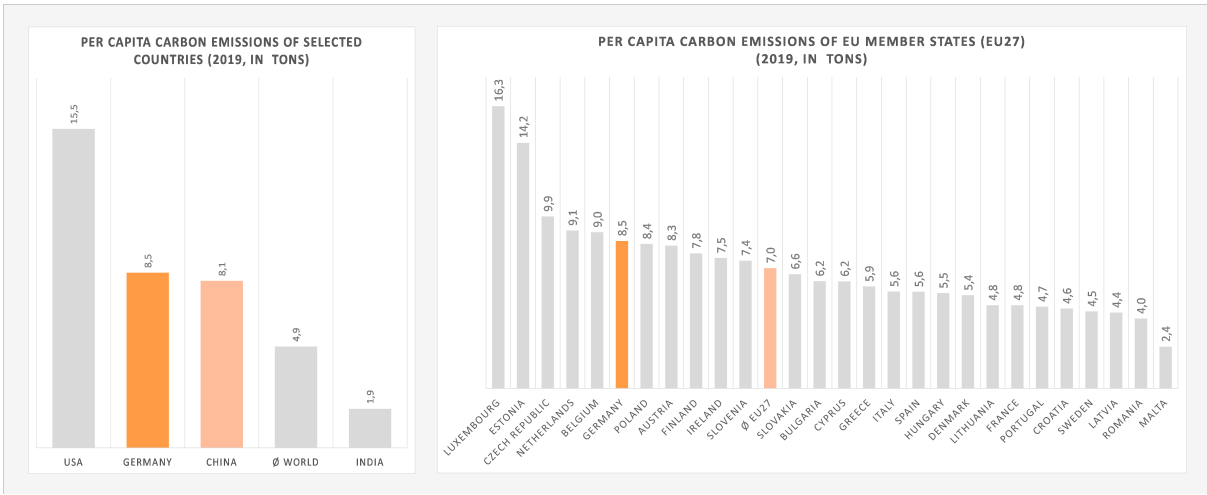


(a) Efficiency treatment

[5]It is important to emphasize that we are providing an accurate and precise description of the policy measure as it was originally planned and communicated by the German government during this period. For details see Bundesfinanzministerium (2019a,b)



(b) Redistribution treatment



(c) Comparison treatment

Views on carbon pricing In the final section of our survey, we explore how respondents think about carbon pricing. For this reason, we elicit their perceptions of the efficiency gains of carbon pricing (will individuals or firms change their behavior?), the distributional implications of carbon pricing (how much will low-income households be affected by the introduction of the German carbon price?), and global emission levels and national carbon pricing initiatives (where does Germany rank?). Thus, the questions focus on the dimensions covered in the three information treatments.

Moreover, we ask our respondents again whether they support the introduction of the German carbon price, whether they consider it to be fair, or whether they think carbon pricing is a suitable policy measure to reduce climate change. We also include two "real-stakes" questions to receive alternative measures for respondents' support. First, we inform the respondents that they take part in a lottery to win 10€. We then ask them how much of their win, they are willing to donate to an organization that promotes emission reductions if they win the lottery. Second, we use a variant of the incentivized coordination game by Krupka & Weber (2013) to elicit respondents' views on other people's support for the German carbon price and thus their perceived social norm.

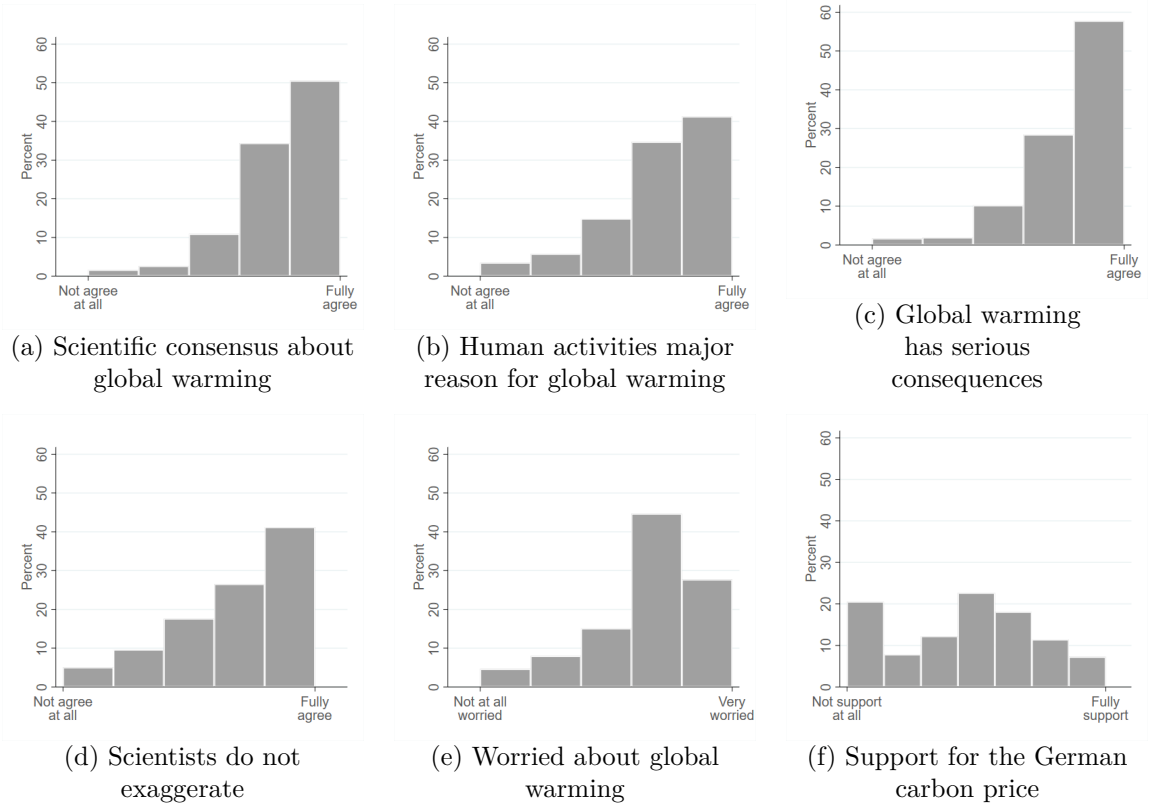
3 Attitudes towards climate change and support for carbon pricing *prior* to the information treatments

Support for carbon pricing likely depends on people's attitudes towards climate change. If a large part of the population is not aware or denies that climate change exists and that it has serious consequences, we can hardly expect support for environmental policies that lead to individual costs—even if people are provided with (economic) information on carbon pricing. We therefore start our analysis by taking a closer look at respondents' attitudes towards climate change and their support for carbon pricing *prior* to the information treatments.

In Figure 3a-3e, we find that climate change awareness is relatively high among respondents: more than 80% of the respondents rather agree that there is a scientific consensus about the existence of global warming (Figure 3a). Moreover, 76% of the respondents agree that human activity is one major reason for global warming (Figure 3b), 86% of the respondents agree that global warming has serious consequences for humans and nature (Figure 3c), almost 70% of all respondents agree that scientists do not exaggerate the dangers of climate change (Figure 3d), and 72% of all respondents are worried about global warming (Figure 3e). In contrast, using disagreement with the different statements as a proxy for climate change scepticism, we find that less than 25% of the respondents' express doubts regarding climate change in one of the aforementioned dimensions. In the following, we cautiously call this group "climate change sceptics".

Next, we examine respondents' views on the introduction of the German carbon price *prior* to the information treatments. Figure 3f shows how support is distributed across all respondents. Despite the high level of climate change awareness, we find that support for the introduction of the German carbon price is relatively low. While approximately 37% of respondents rather support the introduction of the German carbon price, 41% are not much in favor of this climate policy. In addition, we find that the group of respondents that does not support the German carbon price includes a non-negligible

Figure 3. Attitudes towards climate change



(a) Scientific consensus about global warming

(b) Human activities major reason for global warming

(c) Global warming has serious consequences

(d) Scientists do not exaggerate

(e) Worried about global warming

(f) Support for the German carbon price

Notes: Figure 3a-3d show respondents' agreement with the following statements (measured from 1 "Strongly disagree" to 5 "Strongly agree"). Figure 3a: "An overwhelming body of science agrees that a long-term warming trend exists.", Figure 3b: "A major cause of climate change is human activity.", Figure 3c: "Climate change has serious consequences for people and nature.", Figure 3d: "Scientists do not exaggerate the dangers of climate change." (For clarity, we have recoded the original question.) Figure 3e shows respondents' level of worry about global warming (measured from 1 "Not at all worried" to 5 "Very worried"). Figure 3f shows respondents' support for the introduction of the German carbon price (measured from 1 "Not support at all" to 7 "Fully support").

group of respondents who strongly oppose this policy measure. To get an idea of what lies behind people's attitudes towards carbon pricing, we further evaluate the answers to our open-end questions using word clouds in which terms are displayed in larger or smaller font according to their frequency of use. Figure 4 shows the word clouds for each of the three open-end questions.

As shown in Figure 4a, respondents' first thoughts regarding the introduction of the German carbon price are dominated by financial concerns. Terms such as "pay", "expensive", "money", or "costs" are mentioned frequently. Moreover, the terms "good" and "ripoff" are rather prevalent, reflecting the contrasting attitudes towards the introduction of the German carbon price in Figure 3f. When it comes to the disadvantages of the introduction of the German carbon price, the word cloud looks relatively similar (see Figure 4b). Here, too, the considerations are mainly dominated by financial concerns.

Figure 4. Word clouds

(a) First thoughts

(b) Disadvantages

(c) Advantages

Notes: The figures show word clouds based on the text analysis of the open-end questions. Each panel refers to question indicated in the caption.

Finally, focusing on the advantages of the introduction of the German carbon price, we find an accumulation of terms related to environmental protection and lower emission levels (see Figure 4c). However, the most frequently used term is "none".

4 The causal effect of information on policy views

4.1 Empirical specification

Based on the results from the previous section, the question arises whether people's views on carbon pricing can be influenced by economic information. To identify the causal effects of the information treatments on people's perceptions, we rely on random assignment of the respondents to the four experimental groups and estimate the following

three reduced-form regressions:[6]

$$EI_i = \alpha_0 + \alpha_1 ET_i + \alpha_2 RT_i + \alpha_3 CT_i + \alpha_4 X_i' + \eta_i \tag{1}$$

$$RI_i = \beta_0 + \beta_1 ET_i + \beta_2 RT_i + \beta_3 CT_i + \beta_4 X_i' + u_i \tag{2}$$

$$CI_i = \gamma_0 + \gamma_1 ET_i + \gamma_2 RT_i + \gamma_3 CT_i + \gamma_4 X_i' + v_i \tag{3}$$

where EI_i, RI_i and CI_i are summary indices that capture respondents' perceptions of carbon pricing along the three dimensions covered by the information treatments. Precisely, the Efficiency index (EI_i) averages together six measures of respondents' perceptions about the policy's effectiveness in changing the behavior of individuals and firms. The Redistribution index (RI_i) averages together four measures of respondents' perceptions about the distributional impact of carbon pricing in general and the German carbon price in particular and the Comparison index (CI_i) averages together three measures of respondents' perceptions about global emission levels and carbon pricing initiatives outside Germany (for a description of the indices components see Appendix A.2.2). We follow the methodology in Kling et al. (2007) and construct the three indices as the equally weighted average of the z-scores of their components. As we calculate the z-scores by subtracting the mean of the control group and dividing by the standard deviation of the control group, each component of the index has a mean of 0 and a standard deviation of 1 for the control group. Furthermore, the indices are constructed in such a way that they increase the more the perceptions are in line with the content of the respective information treatment. ET_i, RT_i and CT_i are treatment indicators for the different treatment group, i.e., the *Efficiency treatment*, the *Redistribution treatment* and the *Comparison treatment*. X_i' is a vector of control variables including respondents' gender, age, household income, level of education, employment status, parent status, migration background, city size, political affiliation, (self-reported) policy knowledge, and support for carbon pricing prior to the information treatments. η_i, u_i, and v_i are error terms.

We identify the causal effect of the information treatments on people's support for carbon pricing in a similar manner. That is, we estimate

$$Y_i = \delta_0 + \delta_1 ET_i + \delta_2 RT_i + \delta_3 CT_i + \delta_4 X_i' + \epsilon_i \tag{4}$$

where Y_i measures the support of respondent i and ϵ_i is the error term. All else corresponds to the regressions in Equations (1)-(3).

Finally, to study how changes in perceptions of carbon pricing affect support, we estimate an instrumental variable (2SLS) model. Specifically, we use the three exogenous

[6] To ensure that random assignment successfully balanced respondents' characteristics in the four experimental groups, we analyze the difference in means between the control group and the three treatment groups by regressing a variety of background variables on the three treatment indicators. The results are provided in Table A2 and suggest that the characteristics hardly differ across the experimental groups.

treatment indicators to instrument for respondents' perceptions and consider Equation (1)-(3) as first-stage regressions. We then estimate the second stage of the IV model as follows:

$$Y_i = \pi_0 + \pi_1 \hat{EI}_i + \pi_2 \hat{RI}_i + \pi_3 \hat{CI}_i + \pi_4 X_i' + w_i \tag{5}$$

where $\hat{EI}_i$, $\hat{RI}_i$ and $\hat{CI}_i$ are the perceptions predicted by the first-stage. If our instruments are relevant and if they only affect respondents' support through their effect on perceptions, then our estimates for π_1, π_2 and π_3 measure the local average treatment effect (LATE), i.e., the effect for those respondents whose perceptions changed due to the information treatments.

4.2 Does information affect perceptions?

Table 2 reports the causal effect of providing information on respondents' perceptions regarding carbon prices. The estimates are based on Equation (1)-(3). Thus, the dependent variables are the three summary indices that capture respondents' perceptions of carbon pricing along the dimensions covered by the information treatments.

Table 2. Effect of information on perceptions

	Efficiency index (1)	Redistribution index (2)	Comparison index (3)
Efficiency treatment	0.124***	-0.008	0.011
	(0.030)	(0.025)	(0.030)
Redistribution treatment	0.033	0.096***	0.003
	(0.029)	(0.024)	(0.029)
Comparison treatment	0.033	-0.024	0.739***
	(0.026)	(0.021)	(0.025)
Observations	3589	3589	3589
R^2	0.297	0.048	0.316
Control mean	0.000	0.000	0.000

Notes: The table shows OLS regression estimates. The dependent variables in column 1, 2, and 3 are summary indices that capture respondents' perceptions regarding carbon prices along the three dimensions covered by the information treatments. The indices are constructed following the methodology in Kling et al. (2007) and increase in size the more the perceptions are in line with the information of the respective treatment. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The results suggest that respondents across all treatments change their perceptions of carbon pricing when they are provided with simple information. More precisely, the *Efficiency treatment* has a positive and significant effect on respondents' perceptions of

the behavioral responses to carbon pricing (in terms of magnitude, the treatment increases the respective summary index by 0.12 standard deviations), the *Redistribution treatment* has a positive and significant effect on the perceptions of the distributional implications, and the *Comparison treatment* has a positive and significant effect on the perceptions of international emission levels and carbon pricing initiatives. We also explore the effect of the information treatments on the indices' components. The results of these regressions are presented in the Appendix and show that the effects are not driven by individual components of the indices (see Table A3, A4, and A5).

Analyzing the effects of the three treatments on the corresponding perceptions by different subgroups of the population, we do not find substantial effect heterogeneity (see Table A6, A7, and A8). Specifically, the are no remarkable differences in the effects of the information treatments between respondents with low and high household income, respondents with and without a university degree, respondents with left-leaning and right-leaning political preferences, respondents who are older or younger than 50 years, respondents living in rural areas, or respondents living in West and East Germany. The exception is women, who react more strongly to the information on the distributional implications of carbon pricing. In line with our expectations, the results furthermore suggest that respondents with high (self-reported) policy knowledge and respondents who show some scepticism regarding climate change respond to all information treatments less. Yet, the coefficients on the interactions terms are not statistically significant.

4.3 Does information affect support?

4.3.1 Reduced-form estimates

Next, we investigate whether our information treatments do not only affect respondents' perceptions, but also their attitudes towards the introduction of the German carbon price. Table 3 reports the reduced-form effects that we obtain when estimating Equation (4). Focusing on column 1, where we measure individual support as a dummy, that is equal to one if the respondent at least "rather supports" the introduction of the German carbon price and zero otherwise, we find a positive and marginally significant effect of the *Efficiency treatment* on respondents' support: Whereas 41% of the respondents in the control group support the introduction of the carbon price, providing information on behavioral responses or the efficiency gains of carbon pricing increases this share by 2.5 percentage points. The effect of the *Comparison treatment*—and thus the effect of providing social information—is smaller and not statistically significantly different from zero. Yet, if we measure individual support on a continuous seven-point scale (column 2) and thus exploit more variation in respondents' support, the effect becomes statistically significant as well. In terms of magnitude, the coefficient suggests that support increases by 2.2% compared to the control group mean. The effect of the *Redistribution treatment* is

Table 3. Effect of information on policy support (Reduced-form effects)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency treatment	0.025*	0.121***	0.060**	0.111*
	(0.014)	(0.043)	(0.024)	(0.061)
Redistribution treatment	0.014	0.032	0.036	0.048
	(0.014)	(0.044)	(0.024)	(0.062)
Comparison treatment	0.013	0.083**	0.049**	0.071
	(0.013)	(0.038)	(0.020)	(0.054)
Observations	3589	3589	3589	3589
R^2	0.665	0.795	0.143	0.175
Control mean	0.410	3.788	0.375	3.867

Notes: This table shows OLS regression estimates. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

much smaller and remains statistically insignificant regardless of how support is measured. Given previous findings in the literature that distributional concerns are important drivers of public acceptance of carbon pricing and that revenue recycling in the form of lump sums can increase public acceptance of carbon pricing (see, e.g., Carattini et al., 2017, 2018; Dechezleprêtre et al., 2022; Drews & van den Bergh, 2016; Maestre-Andrés et al., 2019; Mildenberger et al., 2022), this suggests that the information provided by the *Redistribution treatment* does not sufficiently address these concerns to influence people's support for carbon pricing—at least not among the population as a whole.

Turning to respondents' perceptions regarding other people's support for the introduction of the German carbon price, i.e., the perceived social norm, we find very similar effects of the information treatments. In the control group, 37.5% of respondents believe that other people support the introduction of the German carbon price (compared to 41% of respondents who say they support the introduction of the carbon price). The estimates in column 3 suggest that the *Efficiency* and *Comparison treatment* increase this share by 6.0 and 4.9 percentage points respectively. The estimates thus suggest that both types of information may not only affect individual support, but also induce changes in the perceived social norm. This is an interesting finding, as previous research has shown that perceived social norms are an important driver of individuals' intentions and behavior

(see, e.g., Andre et al., 2021; Bicchieri & Xiao, 2009; Bursztyn & Jensen, 2017; Farrow et al., 2017; Nyborg et al., 2016).

Since our outcome variables are either dummy variables or measured on an ordinal scale, we check whether our results are robust to the use of probit or pseudo poisson maximum likelihood regressions. Table A9 in the Appendix shows that all our findings are confirmed using these alternative regression models. Moreover, we estimate the effect of the information treatments on other measures of respondents' support (such as overall perceived fairness, perceived suitability of carbon prices to reduce climate change and an incentivized donation). The estimates are reported in the Appendix in Table A10 and yield similar results.

4.3.2 Instrumental variable estimates

Having discussed reduced-form estimates, and thus intention-to-treat effects, Table 4 now reports the IV estimates based on Equation (5). Given that the information treatments significantly change respondents' perceptions of carbon pricing (see Section 4.2), and assuming that the treatments affect respondents' support only through the effect on respondents' perceptions, we find that a one standard deviation increase in the *Efficiency index* driven by the *Efficiency treatment* significantly increases average support by 20.2 percentage points (column 1). In other words, perceptions of the behavioral responses to carbon pricing need to increase by about half a standard deviation for average support to exceed 50%.

The effects of the *Redistribution* and *Comparison treatment* induced changes in perceptions of carbon pricing indicate a positive, though insignificant, effect on support. As before, we obtain similar results if we instead measure support on a continuous seven-point scale (column 2) or if we use the perceived social norm as an alternative measure of respondents' support (column 3 and 4).

4.4 Heterogeneous treatment effects

Finally, we analyze heterogeneity in treatment effects across different subgroups of the population.[7] We start by looking at whether the treatments are more effective for respondents with low income. Column 1 of Table 5 reports the reduced-form estimates based on an extended version of Equation (4). As can be seen from the table, the effect of the *Redistribution treatment* is larger for low-income individuals than for high-income individuals. This results in an overall treatment effect that is very similar in magnitude to that of the *Efficiency treatment* for this subgroup of the population. Although neither

[7]Given the detailed information on individual background characteristics, we concentrate on three subgroups in the main part of our analysis. Table A11 in the Appendix, however, reports heterogeneous treatment effects for further subgroups of the population.

Table 4. Effect of information on policy support (IV estimates)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency index	0.202*	0.966**	0.488**	0.902*
	(0.120)	(0.383)	(0.217)	(0.518)
Redistribution index	0.080	0.001	0.211	0.187
	(0.138)	(0.434)	(0.242)	(0.576)
Comparison index	0.012	0.070	0.052*	0.063
	(0.017)	(0.055)	(0.031)	(0.075)
Observations	3589	3589	3589	3589
Control mean	0.410	3.788	0.375	3.867

Notes: This table shows 2SLS regression estimates with randomized information treatments used as instruments for perceptions regarding carbon prices. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

the coefficient on the interaction term nor the coefficient on the overall treatment effect is statistically significantly different from zero, the pattern could suggest that providing information on the distributional aspects of the German carbon price may at least affect individuals for whom the information is particularly relevant, e.g. because of stronger preferences for redistribution or because of their expectations about their own financial prospects.

Next, we explore treatment effect heterogeneity by trust in the government. The estimates which are reported in column 2 show two notable results: First, we find that the positive treatment effects that we document in the previous section are entirely driven by respondents with high trust in the government. Among them, the *Efficiency* and *Comparison treatment* increase support by 6.1 and 4.3 percentage points respectively. Second, while the *Redistribution treatment* has an effect on support that is indistinguishable from zero for respondents with low trust in the government, the effect is significantly larger for respondents with high trust. Specifically, our results show that explaining the distributional aspects of carbon pricing, including the redistribution of revenues in the German setting, increases respondents' support by 6.1 percentage points. This finding suggests

Table 5. Treatment effect heterogeneity

	Dependent variable: Individual support Interactant:		
	(1) Low income	(2) Trust in the government	(3) Climate change scepticism
Efficiency treatment (A)	0.022	0.017	0.035**
	(0.018)	(0.016)	(0.017)
Redistribution treatment (B)	0.008	0.001	0.022
	(0.018)	(0.016)	(0.017)
Comparison treatment (C)	0.027*	0.004	0.028*
	(0.016)	(0.014)	(0.015)
Interactant	0.010	0.025	0.008
	(0.023)	(0.022)	(0.023)
Efficiency t. × Interactant=1 (X)	0.005	0.045	-0.044
	(0.029)	(0.034)	(0.031)
Redistribution t. × Interactant=1 (Y)	0.016	0.060*	-0.033
	(0.030)	(0.033)	(0.033)
Comparison t. × Interactant=1 (Z)	-0.036	0.039	-0.060**
	(0.026)	(0.029)	(0.028)
Linear combination (A+X)	0.028	0.062**	-0.009
p-value of joint F-test	0.237	0.040	0.733
Linear combination (B+Y)	0.024	0.061**	-0.011
p-value of joint F-test	0.309	0.037	0.703
Linear combination (C+Z)	-0.009	0.043*	-0.032
p-value of joint F-test	0.664	0.089	0.180
Observations	3589	3589	3589
R^2	0.665	0.667	0.666
Control mean	0.410	0.410	0.410

Notes: This table shows OLS regression estimates. The dependent variable measures *individual support* as a dummy that is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise). All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

that people may not trust the government to redistribute the revenues from the carbon price, which may be one reason why the *Redistribution treatment* does not sufficiently address people's concerns about the uneven distribution of the policy burden and thus does not affect their support for the carbon price.

Finally, we explore treatment effect heterogeneity by climate change scepticism. For all three treatments, the coefficients on the interaction terms are negative, indicating smaller effects on support among respondents who are sceptical about climate change (column 3). Moreover, none of the overall treatment effects is distinguishable from zero for this specific subgroup of the population. Thus, none of the information treatments seems to able to change the attitudes of climate change sceptics—a finding that complements literature on the heterogeneity of information treatment effects with respect to (politically motivated) prior beliefs (see, e.g., Dolls et al., 2023; Douenne & Fabre, 2022; Stantcheva,

2021).

5 Conclusion

In this paper, we examine people's attitudes towards climate change and carbon pricing and study whether people's views on carbon pricing can be influenced by economic information. We investigate this question in Germany in December 2020, and thus shortly before the German government introduced a national carbon price. Our analysis is based on a large-scale online survey experiment in which randomly selected treatment groups receive information about different aspects of carbon pricing.

In a first step, we focus on people's views on climate change and carbon pricing *prior* to our information treatments. We find that a large majority of people is aware that climate change exits and considers it a serious issue. At the same time, however, support for and knowledge of the (economic) arguments in favor of carbon pricing seem to be relatively low. In a second step, we thus turn to the question whether providing information can affect people's policy views. On the one hand, we find that informing respondents about potential behavioral responses or efficiency gains from carbon pricing, as well as about global emission levels and national carbon pricing initiatives outside Germany, affects their perceptions and improves their support for the German carbon price. Moreover, we find that both types of information change the perceived social norm of support for carbon pricing, which has the potential to further influence attitudes towards carbon pricing in the long run. On the other hand, explaining the distributional implications of carbon pricing, including both the general concept and the German design of revenue recycling, has no effect on overall public support, suggesting that this type of information does not sufficiently address individuals' concerns about the uneven distribution of the policy burden. Finally, a heterogeneity analysis shows that the information on the distributional effects of the German carbon price may still affect those individuals for whom this information is particularly relevant, e.g. low-income individuals. Moreover, the analysis reveals that the information treatments only influence the views of respondents with trust in government and climate change awareness.

Our findings are consistent with previous literature that documents high climate change awareness and low support for carbon pricing in different contexts (see, e.g., Brüggemann et al., 2017; Dechezleprêtre et al., 2022; Douenne & Fabre, 2020; Fairbrother, 2022). Our evidence is also consistent with recent work suggesting that providing individuals with specific information can help to increase the support for political climate action (Andre et al., 2021; Dechezleprêtre et al., 2022; Douenne & Fabre, 2022). In comparison to our results, Dechezleprêtre et al. (2022), however, find substantially larger effects of providing information on climate policies on support for a carbon tax with cash transfers. This difference may be explained by two factors: First, while all of our treatments pro-

vide information on different aspects of carbon pricing, Dechezleprêtre et al. (2022) use a treatment that combines different information not only on carbon pricing, but also on two other climate policies. Second, unlike Dechezleprêtre et al. (2022), we focus specifically on the German context and thus on a setting where (i) people are directly affected by the introduction of a carbon price and (ii) the revenues from carbon pricing are returned to citizens through a variety of small measures rather than through highly visible lump-sum payments.

Given that public opposition has often been a significant constraint for the implementation of effective carbon prices in the past, our results have important implications for climate politics. First, they suggest that information can be a relatively cheap and effective way to increase public support for carbon pricing, and can therefore be a useful tool to facilitate critical policy debates. Second, our results suggest that the effectiveness of information interventions strongly depends on the information provided, but even more so on socioeconomic factors. Future research could thus focus on ways to maximize the effectiveness of these types of interventions, particularly in the context of those subgroups of the population that have been difficult to reach so far.

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A Appendix

A.1 Additional tables

A.1.1 Summary statistics, balancing test, and additional results

Table A1. Attrition analysis

	Dropped out		
	(1) Total	(2) After SES questions	(3) Upon learning about topic
Efficiency treatment	0.011	0.004*	0.005
	(0.010)	(0.002)	(0.008)
Redistribution treatment	0.001	0.003	-0.000
	(0.009)	(0.002)	(0.007)
Comparison treatment	0.016*	0.002*	0.008
	(0.009)	(0.001)	(0.007)
Female	0.032***	0.001	0.021***
	(0.007)	(0.002)	(0.005)
Age	0.001*	0.000	0.000
	(0.000)	(0.000)	(0.000)
HH income: 1,500-2,499€	0.004	-0.001	0.002
	(0.012)	(0.002)	(0.009)
HH income: 2,500-3,999 €	-0.005	0.002	-0.003
	(0.011)	(0.003)	(0.009)
HH income: 4,000 € +	0.001	-0.001	0.001
	(0.012)	(0.003)	(0.009)
No degree/basic degree	0.002	-0.002	-0.002
	(0.017)	(0.001)	(0.013)
University degree	-0.006	0.000	-0.009*
	(0.007)	(0.002)	(0.005)
Employed	-0.000	-0.000	-0.001
	(0.008)	(0.002)	(0.007)
Unemployed	0.018	-0.002	0.021
	(0.017)	(0.002)	(0.015)
German	-0.001	-0.003	0.005
	(0.015)	(0.004)	(0.011)
Children	0.003	-0.000	0.002
	(0.008)	(0.002)	(0.006)
Political pref.: SPD	0.015	-0.001	0.017*
	(0.011)	(0.001)	(0.009)

Continued on next page.

	Dropped out		
	(1) Total	(2) After SES questions	(3) Upon learning about topic
Political pref.: Grüne	0.010	0.003	0.004
	(0.010)	(0.003)	(0.008)
Political pref.: Afd	0.007	-0.001	-0.002
	(0.012)	(0.001)	(0.009)
Political pref.: FDP	-0.012	-0.001	-0.009
	(0.011)	(0.001)	(0.009)
Political pref.: Linke	-0.002	0.002	-0.007
	(0.011)	(0.003)	(0.008)
Political pref.: Other	0.010	0.008	0.000
	(0.015)	(0.006)	(0.012)
Political pref.: Not specified	0.040**	0.002	0.021*
	(0.016)	(0.003)	(0.012)
Policy knowledge	-0.012**	-0.000	-0.004
	(0.005)	(0.001)	(0.004)
Observations	3961	3961	3961
R^2	0.019	0.005	0.012

Notes: The table shows OLS regression estimates. The dependent variables are indicators equal to one if the individual dropped out voluntarily at some point (column 1), during the background questions (column 2), or upon learning about the topic (column 3). Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A2. Balancing test

	(1) Control group	(2) Efficiency treatment	(3) p-Value	(4) Redistribution treatment	(5) p-Value	(6) Comparison treatment	(7) p-Value
Female	0.482	0.512	0.245	0.458	0.359	0.517	0.124
18-29 years old	0.174	0.199	0.219	0.155	0.300	0.213	0.029
30-39 years old	0.192	0.174	0.369	0.211	0.353	0.186	0.768
40-49 years old	0.194	0.180	0.490	0.188	0.759	0.172	0.214
50-59 years old	0.257	0.263	0.779	0.247	0.667	0.236	0.293
60-69 years old	0.182	0.183	0.971	0.199	0.417	0.192	0.602
HH income: 0-1,499 €	0.158	0.158	0.970	0.140	0.311	0.149	0.550
HH income: 1,500-2,499€	0.217	0.238	0.334	0.237	0.368	0.240	0.228
HH income: 2,500-3,999 €	0.357	0.309	0.048	0.348	0.724	0.340	0.446
HH income: 4,000 € +	0.268	0.295	0.231	0.276	0.732	0.271	0.861
No degree/basic degree	0.059	0.043	0.163	0.055	0.771	0.052	0.531
Vocational/high-school degree	0.586	0.622	0.157	0.605	0.456	0.618	0.149
University degree	0.354	0.332	0.356	0.339	0.529	0.328	0.233
Employed	0.692	0.697	0.863	0.692	0.993	0.694	0.943
Unemployed	0.067	0.057	0.466	0.070	0.800	0.077	0.393
Children	0.475	0.528	0.041	0.548	0.005	0.511	0.116
German	0.945	0.932	0.273	0.954	0.431	0.936	0.382
Political pref.: CDU/CSU	0.272	0.251	0.371	0.276	0.866	0.256	0.425
Political pref.: SPD	0.128	0.150	0.220	0.151	0.205	0.154	0.098
Political pref.: Grüne	0.186	0.189	0.918	0.175	0.557	0.175	0.501
Political pref.: AfD	0.097	0.106	0.590	0.091	0.701	0.091	0.663
Political pref.: FDP	0.063	0.049	0.270	0.067	0.717	0.069	0.562
Political pref.: Linke	0.108	0.098	0.513	0.095	0.427	0.100	0.552
Political pref.: Other	0.064	0.049	0.226	0.069	0.719	0.068	0.694
Political pref.: Not specified	0.083	0.108	0.090	0.077	0.671	0.088	0.687
High policy knowledge	0.631	0.615	0.518	0.622	0.724	0.609	0.320
Prior support	0.378	0.348	0.219	0.374	0.857	0.369	0.686

Notes: Columns 1, 2, 4, and 6: group mean. Columns 3, 5 and 7: difference in means between the control group and the respective treatment group. Significance levels are based on linear regressions of the respective background variables on the respective treatment indicator.

Table A3. Effect of information on "Efficiency" perceptions

	Efficiency index (1)	Indiv. behavior: Driving less (2)	Indiv. behavior: Pub. transport (3)	Indiv. behavior: Saving energy (4)	Indiv. behavior: Investments (5)	Firm behavior: Investments (6)	Firm behavior: Innovation (7)
Efficiency treatment	0.124***	0.081***	0.056**	0.067***	0.039	0.043*	0.054**
	(0.030)	(0.020)	(0.023)	(0.024)	(0.024)	(0.023)	(0.022)
Redistribution treatment	0.033	0.017	0.000	0.005	0.010	0.029	0.029
	(0.029)	(0.019)	(0.023)	(0.025)	(0.024)	(0.023)	(0.022)
Comparison treatment	0.033	0.014	-0.008	-0.010	0.026	0.043**	0.025
	(0.026)	(0.017)	(0.020)	(0.022)	(0.021)	(0.020)	(0.019)
Observations	3589	3589	3589	3589	3589	3589	3589
R^2	0.297	0.117	0.154	0.111	0.138	0.192	0.193
Control mean	0.000	0.178	0.357	0.475	0.562	0.566	0.286

Notes: The table shows OLS regression estimates. The dependent variable in column 1 is a summary index constructed following the methodology in Kling et al. (2007), that combines the efficiency perception variables in column 2 to 7. The index increases in size the more the perceptions are in line with the information of the *Efficiency treatment*. The dependent variables in column 2 to 7 are indicator variables equal to one if: *Indiv. behavior: Driving less*: the respondent thinks that the German carbon price will make people drive less; *Indiv. behavior: Pub- transport*: the respondent thinks that the German carbon price will make people choose environmentally friendly means of transport; *Indiv. behavior: Saving energy*: the respondent thinks that the German carbon price will make people save energy; *Indiv. behavior: Inverstments*: the respondent thinks that the German carbon price will make people use renewable energies; *Firm behavior: Investments*: the respondent thinks that the German carbon price will encourage companies to invest in climate-friendly technologies; *Firm behavior: Innovation*: the respondent thinks that the German carbon price will promote innovation in the field of climate protection. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4. Effect of information on "Redistribution" perceptions

	Redistribution index (1)	High incomce HH financially burdened (2)	Low incomce HH financially burdened (3)	Low income HH pay higher share (4)	Social revenue recycling (5)
Efficiency treatment	-0.008	-0.006	0.036	-0.022	-0.015
	(0.025)	(0.019)	(0.023)	(0.025)	(0.014)
Redistribution treatment	0.096***	0.043**	0.023	0.062**	0.027*
	(0.024)	(0.020)	(0.023)	(0.025)	(0.016)
Comparison treatment	-0.024	0.002	-0.009	-0.024	-0.009
	(0.021)	(0.017)	(0.021)	(0.022)	(0.013)
Observations	3589	3589	3589	3589	3589
R^2	0.048	0.038	0.065	0.061	0.076
Control mean	0.000	0.158	0.684	0.578	0.101

Notes: The table shows OLS regression estimates. The dependent variables in column 1 is a summary index constructed following the methodology in Kling et al. (2007), that combines the redistribution perception variables in column 2 to 5. The index increases in size the more the perceptions are in line with the information of the *Redistribution treatment*. The dependent variables in column 2 to 5 are indicator variables equal to one if: *High income HH financially burdened*: the respondent thinks high income households carry a large financial burden; *Low income HH financially burdened*: the respondent thinks low income households carry a large financial burden; *Low income HH pay higher share*: the respondent thinks that low-income households on average have to pay a higher share of their income for the carbon price; *Social revenue recycling*: the respondent thinks that much attention will be paid to a socially balanced financial burden when the carbon price is introduced in Germany. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01

Table A5. Effect of information on "Comparison" perceptions

	Comparison index (1)	China has lower p.c. emission levels than Germany (2)	German p.c. emission levels are above EU average (3)	Several EU member states have national carbon price (4)
Efficiency treatment	0.011	0.006	0.001	0.009
	(0.030)	(0.022)	(0.020)	(0.025)
Redistribution treatment	0.003	-0.013	0.012	0.004
	(0.029)	(0.022)	(0.020)	(0.025)
Comparison treatment	0.739***	0.577***	0.146***	0.255***
	(0.025)	(0.019)	(0.015)	(0.022)
Observations	3589	3589	3589	3589
R^2	0.316	0.336	0.059	0.092
Control mean	0.000	0.250	0.815	0.458

Notes: The table shows OLS regression estimates. The dependent variables in column 1 is a summary index constructed following the methodology in Kling et al. (2007), that combines the perception variables in column 2 to 4. The index increases in size the more the perceptions are in line with the information of the *Comparison treatment*. The dependent variables in column 2 to 4 are indicator variables equal to one if: *CHN has lower p.c. emissions than GER*: the respondent thinks that China has lower per-capita emission levels than Germany; *German p.c. emissions above EU average*: the respondent thinks that Germany ranks in the upper half of the EU member states with regard to the level of carbon emissions; *Several EU MS have national carbon price*: the respondent thinks that several EU member states (but not all) have a national carbon price already. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6. Heterogeneous effects of information on perceptions

	Dependent variable: Efficiency index									
	Interactant:									
	(1) Female	(2) Low income	(3) University degree	(4) Age (>49 years)	(5) Living in rural areas	(6) Living in the east	(7) Left leaning	(8) High policy knowledge	(9) Trust in the government	(10) Climate change scepticism
Efficiency treatment (A)	0.081	0.124***	0.107***	0.095	0.131***	0.132***	0.115***	0.149***	0.134***	0.143***
	(0.042)	(0.038)	(0.037)	(0.040)	(0.033)	(0.034)	(0.038)	(0.049)	(0.033)	(0.035)
Interactant	-0.019	0.024	-0.501**	-0.014	0.010	0.064	-0.115**	0.245***	0.172***	-0.104**
	(0.043)	(0.052)	(0.210)	(0.052)	(0.053)	(0.048)	(0.051)	(0.095)	(0.051)	(0.047)
Efficiency treatment ×	0.087	0.001	0.050	0.065	-0.039	-0.034	0.021	-0.040	-0.029	-0.074
Interactant (B)	(0.060)	(0.061)	(0.063)	(0.060)	(0.076)	(0.069)	(0.061)	(0.062)	(0.076)	(0.064)
Linar combination (A+B)	0.168***	0.125***	0.158***	0.161***	0.092	0.098	0.136***	0.109***	0.105	0.068
p-value of joint F-test	0.000	0.009	0.002	0.000	0.182	0.103	0.004	0.003	0.123	0.204
Observations	3589	3589	3589	3589	3589	3589	3589	3589	3589	3589
R^2	0.298	0.298	0.298	0.298	0.298	0.298	0.298	0.297	0.310	0.301
Control mean	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The table shows OLS regression estimates. The dependent variable is a summary index constructed following the methodology in Kling et al. (2007), that combines respondents' perceptions about the negative external effects, the polluters pay principle, the policy's effectiveness in changing behaviors and its effect on the economy. The index increases in size the more the perceptions are in line with the information of the *Efficiency treatment*. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7. Heterogeneous effects of information on perceptions

	Dependent variable: Redistribution index Interactant:									
	(1) Female	(2) Low income	(3) University degree	(4) Age (>49 years)	(5) Living in rural areas	(6) Living in the east	(7) Left leaning	(8) High policy knowledge	(9) Trust in the government	(10) Climate change scepticism
Redistribution treatment (A)	0.043	0.115***	0.096***	0.115***	0.089***	0.096***	0.080**	0.113***	0.093***	0.119***
	(0.032)	(0.031)	(0.030)	(0.035)	(0.027)	(0.027)	(0.034)	(0.040)	(0.026)	(0.027)
Interactant	-0.072**	0.061	0.183	-0.032	-0.077*	0.009	-0.016	0.047	0.039	0.116**
	(0.036)	(0.042)	(0.170)	(0.044)	(0.044)	(0.045)	(0.041)	(0.088)	(0.049)	(0.046)
Redistribution treatment ×	0.114**	-0.051*	-0.001*	-0.043*	0.040*	-0.002*	0.036*	-0.027*	0.013*	-0.097*
Interactant (B)	(0.049)	(0.049)	(0.050)	(0.048)	(0.063)	(0.059)	(0.048)	(0.050)	(0.065)	(0.061)
Linar combination (A+B)	0.157***	0.064*	0.095**	0.072**	0.129**	0.094*	0.117***	0.085***	0.106*	0.022
p-value of joint F-test	0.000	0.092	0.019	0.025	0.022	0.076	0.001	0.005	0.078	0.685
Observations	3589	3589	3589	3589	3589	3589	3589	3589	3589	3589
R^2	0.051	0.049	0.048	0.049	0.050	0.048	0.048	0.048	0.051	0.052
Control mean	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The dependent variable is a summary index constructed following the methodology in Kling et al. (2007), that combines respondents' perceptions about the distributional implications of carbon pricing. The index increases in size the more the perceptions are in line with the information of the *Redistribution treatment*. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8. Heterogeneous effects of information on perceptions

	Dependent variable: Comparison index									
	Interactant:									
	(1) Female	(2) Low income	(3) University degree	(4) Age (>49 years)	(5) Living in rural areas	(6) Living in the east	(7) Left leaning	(8) High policy knowledge	(9) Trust in the government	(10) Climate change scepticism
Comparison treatment (A)	0.707***	0.762***	0.735***	0.719***	0.707***	0.732***	0.738***	0.750***	0.759***	0.756***
	(0.035)	(0.031)	(0.031)	(0.033)	(0.028)	(0.028)	(0.034)	(0.041)	(0.028)	(0.028)
Interactant	-0.066	0.002	0.101	-0.049	-0.168***	-0.051	0.098**	0.090	0.036	-0.062
	(0.043)	(0.050)	(0.163)	(0.052)	(0.053)	(0.049)	(0.050)	(0.099)	(0.049)	(0.048)
Comparison treatment ×	0.064	-0.061	0.011	0.046	0.189***	0.033	0.001	-0.018	-0.090	-0.071
Interactant (B)	(0.050)	(0.052)	(0.052)	(0.051)	(0.063)	(0.060)	(0.050)	(0.051)	(0.058)	(0.060)
Linar combination (A+B)	0.771***	0.701***	0.746***	0.765***	0.896***	0.765***	0.739***	0.732***	0.669***	0.685***
p-value of joint F-test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observations	3589	3589	3589	3589	3589	3589	3589	3589	3589	3589
R^2	0.317	0.317	0.317	0.317	0.318	0.317	0.317	0.316	0.317	0.320
Control mean	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The dependent variable is a summary index constructed following the methodology in Kling et al. (2007), that combines respondents' perceptions about global emission levels and carbon price initiatives. The index increases in size the more the perceptions are in line with the information of the *Comparison treatment*. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9. Effect of information on policy views (Probit & Pseudo poisson ML)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency treatment	0.165*	0.033***	0.180***	0.029*
	(0.097)	(0.011)	(0.069)	(0.016)
Redistribution treatment	0.071	0.009	0.109	0.012
	(0.099)	(0.011)	(0.069)	(0.016)
Comparison treatment	0.088	0.023**	0.147**	0.019
	(0.086)	(0.010)		(0.014)
Observations	3589	3589	3589	3589
$PseudoR^2$	0.602	0.196	0.111	0.021
Control mean	0.410	3.788	0.375	3.867

Notes: Column 1 and 3 show the effect of information treatments on respondents' policy views using probit regressions. Column 2 and 4 show Pseudo Poisson Maximum Likelihood estimates. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10. Effect of information on policy views (further outcomes)

	Perceived fairness		Perceived suitability to reduce climate change		Willingness to donate for emission reductions	
	(1) Dummy	(2) 5-point scale	(3) Dummy	(4) 5-point scale	(5) Dummy	(6) Continous
Efficiency treatment	0.076***	0.169***	0.068***	0.146***	0.027	-6.511
	(0.018)	(0.039)	(0.019)	(0.041)	(0.021)	(14.878)
Redistribution treatment	0.022	0.065	0.035*	0.064	0.005	4.271
	(0.019)	(0.040)	(0.019)	(0.041)	(0.021)	(15.084)
Comparison treatment	0.067***	0.172***	0.045***	0.076**	0.021	2.151
	(0.016)	(0.035)	(0.017)	(0.035)	(0.019)	(13.207)
Observations	3589	3589	3589	3589	3589	3589
R^2	0.428	0.562	0.417	0.533	0.166	0.183
Control mean	0.328	2.835	0.369	2.935	0.708	305.189

Notes: This table shows OLS regression estimates. The dependent variable in column 1 and 2 measures the *perceived fairness*: the dummy is equal to one if the respondent thinks that the introduction of the German carbon price is at least "rather" fair (0 otherwise), the continuous five-point measure is coded 1 = "Very unfair" through 5 = "Very fair". The dependent variable in column 3 and 4 measures the *perceived suitability to reduce climate change*: the dummy is equal to one if the respondent thinks that carbon pricing is "rather" suitable to reduce climate change (0 otherwise), the continuous five-point measure is coded 1 = "Very unsuitable" through 5 = "Very suitable". The dependent variable in column 5 and 6 measures respondents' *willingness to donate for emission reductions*: The dummy is equal to one if respondents are willed to donate a positive amount of their potential lottery win (0 otherwise), the continuous measure reflects the exact share of the potential lottery win that respondents are willed to donate. All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A11. Treatment effect heterogeneity

	Dependent variable: Individual support						
	Interactant:						
	(1) Female	(2) University degree	(3) Age (>49 years)	(4) Living in rural areas	(5) Living in the east	(6) Left leaning	(7) High policy knowledge
Efficiency treatment (A)	0.027	0.035*	0.014	0.017	0.031*	0.022	0.041
	(0.019)	(0.019)	(0.020)	(0.016)	(0.017)	(0.019)	(0.026)
Redistribution treatment (B)	0.019	0.010	0.016	0.017	0.012	0.017	0.026
	(0.019)	(0.019)	(0.020)	(0.016)	(0.017)	(0.018)	(0.025)
Comparison treatment (C)	0.021	-0.009	0.022	0.009	0.017	0.008	0.016
	(0.017)	(0.016)	(0.017)	(0.014)	(0.014)	(0.016)	(0.022)
Interactant	-0.009	-0.049	0.028	-0.032	0.003	-0.015	0.024
	(0.020)	(0.128)	(0.025)	(0.025)	(0.021)	(0.024)	(0.047)
Efficiency t. × Interactant=1 (X)	-0.006	-0.033	0.024	0.042	-0.027	0.007	-0.027
	(0.028)	(0.028)	(0.029)	(0.036)	(0.031)	(0.029)	(0.031)
Redistribution t. × Interactant=1 (Y)	-0.010	0.011	-0.002	-0.015	0.010	-0.005	-0.019
	(0.029)	(0.029)	(0.029)	(0.034)	(0.032)	(0.030)	(0.031)
Comparison t. × Interactant=1 (Z)	-0.015	0.067***	-0.020	0.029	-0.018	0.012	-0.004
	(0.025)	(0.026)	(0.025)	(0.032)	(0.029)	(0.026)	(0.027)
Linear combination (A+X)	0.022	0.002	0.038*	0.059*	0.003	0.028	0.015
p-value of joint F-test	0.304	0.906	0.067	0.071	0.895	0.189	0.385
Linear combination (B+Y)	0.009	0.022	0.013	0.002	0.022	0.011	0.007
p-value of joint F-test	0.683	0.333	0.511	0.953	0.409	0.632	0.677
Linear combination (C+Z)	0.006	0.058***	0.002	0.037	-0.000	0.020	0.012
p-value of joint F-test	0.746	0.004	0.911	0.194	0.987	0.308	0.406
Observations	3589	3589	3589	3589	3589	3589	3589
R^2	0.665	0.666	0.665	0.665	0.665	0.665	0.665
Control mean	0.410	0.410	0.410	0.410	0.410	0.410	0.410

Notes: This table shows OLS regression estimates. The dependent variable measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise). All regressions include covariates, i.e., gender, age, household income, education, employment status, children, migration background, city size, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.1.2 Weighted estimation results

Table A12. Effect of information on perceptions (weighted estimates)

	Efficiency index (1)	Redistribution index (2)	Comparison index (3)
Efficiency treatment	0.145***	-0.010	0.004
	(0.026)	(0.026)	(0.033)
Redistribution treatment	0.039	0.098***	0.001
	(0.025)	(0.026)	(0.031)
Comparison treatment	0.038*	-0.029	0.731***
	(0.022)	(0.023)	(0.027)
Observations	3589	3589	3589
R^2	0.379	0.049	0.314
Control mean	0.000	0.000	0.000

Notes: The table shows OLS regression estimates. The dependent variables in column 1, 2, and 3 are summary indices that capture respondents' perceptions regarding carbon prices along the three dimensions covered by the information treatments. The indices are constructed following the methodology in Kling et al. (2007) and increase in size the more the perceptions are in line with the information of the respective treatment. All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. The regression weights are calculated using data from the Federal Statistical Office and are based on the following cells: gender (2) x age over 45 (2) x university degree (2). Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A13. Effect of information on policy support (weighted reduced-form effects)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency treatment	0.035**	0.119**	0.063**	0.110*
	(0.016)	(0.050)	(0.025)	(0.065)
Redistribution treatment	0.010	0.042	0.046*	0.061
	(0.016)	(0.049)	(0.025)	(0.066)
Comparison treatment	0.001	0.045	0.054**	0.052
	(0.014)	(0.043)	(0.022)	(0.057)
Observations	3589	3589	3589	3589
R^2	0.653	0.789	0.144	0.174
Control mean	0.410	3.788	0.375	3.867

Notes: This table shows OLS regression estimates. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. The regression weights are calculated using data from the Federal Statistical Office and are based on the following cells: gender (2) x age over 45 (2) x university degree (2). Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A14. Effect of information on policy support (weighted IV estimates)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency index	0.244**	0.832**	0.453**	0.784*
	(0.116)	(0.354)	(0.191)	(0.470)
Redistribution index	0.004	0.096	0.286	0.312
	(0.144)	(0.441)	(0.244)	(0.590)
Comparison index	-0.011	0.022	0.062*	0.042
	(0.019)	(0.059)	(0.033)	(0.081)
Observations	3589	3589	3589	3589
Control mean	0.410	3.788	0.375	3.867

Notes: This table shows 2SLS regression estimates with randomized information treatments used as instruments for perceptions regarding carbon prices. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. The regression weights are calculated using data from the Federal Statistical Office and are based on the following cells: gender (2) x age over 45 (2) x university degree (2). Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A15. Treatment effect heterogeneity (weighted estimates)

	Dependent variable: Individual support		
	Interactant:		
	(1) Low income	(2) Trust in the government	(3) Climate change scepticism
Efficiency treatment (A)	0.028	0.031*	0.047**
	(0.021)	(0.018)	(0.019)
Redistribution treatment (B)	-0.001	-0.002	0.017
	(0.020)	(0.018)	(0.019)
Comparison treatment (C)	0.013	-0.007	0.017
	(0.018)	(0.016)	(0.016)
Interactant	0.003	0.033	0.004
	(0.025)	(0.025)	(0.026)
Efficiency t. × Interactant=1 (X)	0.017	0.031	-0.048
	(0.034)	(0.041)	(0.036)
Redistribution t. × Interactant=1 (Y)	0.027	0.058	-0.028
	(0.032)	(0.037)	(0.035)
Comparison t. × Interactant=1 (Z)	-0.027	0.036	-0.059*
	(0.028)	(0.032)	(0.031)
Linear combination (A+X)	0.045*	0.061*	-0.001
p-value of joint F-test	0.094	0.090	0.972
Linear combination (B+Y)	0.027	0.056*	-0.011
p-value of joint F-test	0.295	0.089	0.700
Linear combination (C+Z)	-0.014	0.029	-0.043
p-value of joint F-test	0.509	0.304	0.101
Observations	3589	3589	3589
R^2	0.654	0.656	0.655
Control mean	0.410	0.410	0.410

Notes: This table shows OLS regression estimates. The dependent variable measures *individual support* as a dummy that is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise). All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. The regression weights are calculated using data from the Federal Statistical Office and are based on the following cells: gender (2) x age over 45 (2) x university degree (2). Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.1.3 Main results using the full sample

Table A16. Effect of information on perceptions on the full sample

	Efficiency index (1)	Redistribution index (2)	Comparison index (3)
Efficiency treatment	0.135***	-0.006	0.006
	(0.023)	(0.024)	(0.029)
Redistribution treatment	0.011	0.088***	0.000
	(0.023)	(0.024)	(0.028)
Comparison treatment	0.019	-0.028	0.701***
	(0.020)	(0.021)	(0.024)
Observations	3780	3780	3780
R^2	0.376	0.057	0.294
Control mean	0.000	0.000	0.000

Notes: The table shows OLS regression estimates. The dependent variables in column 1, 2, and 3 are summary indices that capture respondents' perceptions regarding carbon prices along the three dimensions covered by the information treatments. The indices are constructed following the methodology in Kling et al. (2007) and increase in size the more the perceptions are in line with the information of the respective treatment. All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A17. Effect of information on policy support on the full sample (reduced-form effects)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency treatment	0.021	0.096**	0.054**	0.090
	(0.014)	(0.043)	(0.023)	(0.060)
Redistribution treatment	0.010	0.026	0.027	0.033
	(0.014)	(0.043)	(0.023)	(0.060)
Comparison treatment	0.010	0.070*	0.041**	0.049
	(0.013)	(0.038)	(0.020)	(0.052)
Observations	3780	3780	3780	3780
R^2	0.652	0.785	0.145	0.181
Control mean	0.407	3.800	0.383	3.898

Notes: This table shows OLS regression estimates. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A18. Effect of information on policy support on the full sample (IV estimates)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency index	0.161	0.716**	0.404**	0.679
	(0.106)	(0.325)	(0.184)	(0.455)
Redistribution index	0.095	0.203	0.257	0.289
	(0.154)	(0.464)	(0.264)	(0.654)
Comparison index	0.014	0.089	0.058*	0.063
	(0.020)	(0.060)	(0.034)	(0.085)
Observations	3780	3780	3780	3780
Control mean	0.407	3.800	0.383	3.898

Notes: This table shows 2SLS regression estimates with randomized information treatments used as instruments for perceptions regarding carbon prices. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A19. Treatment effect heterogeneity in the full sample

	Dependent variable: Individual support		
	Interactant:		
	(1) Low income	(2) Trust in the government	(3) Climate change scepticism
Efficiency treatment (A)	0.021	0.016	0.037**
	(0.018)	(0.016)	(0.017)
Redistribution treatment (B)	0.009	-0.003	0.022
	(0.018)	(0.016)	(0.017)
Comparison treatment (C)	0.024	0.002	0.028*
	(0.016)	(0.014)	(0.014)
Interactant	0.016	0.024	0.014
	(0.023)	(0.023)	(0.024)
Efficiency t. × Interactant=1 (X)	-0.001	0.030	-0.059*
	(0.030)	(0.035)	(0.032)
Redistribution t. × Interactant=1 (Y)	0.002	0.061*	-0.048
	(0.030)	(0.034)	(0.034)
Comparison t. × Interactant=1 (Z)	-0.038	0.031	-0.071**
	(0.026)	(0.030)	(0.029)
Linear combination (A+X)	0.020	0.046	-0.022
p-value of joint F-test	0.391	0.133	0.420
Linear combination (B+Y)	0.011	0.058*	-0.026
p-value of joint F-test	0.640	0.055	0.368
Linear combination (C+Z)	-0.013	0.034	-0.043*
p-value of joint F-test	0.514	0.198	0.090
Observations	3780	3780	3780
R^2	0.653	0.655	0.654
Control mean	0.407	0.407	0.407

Notes: This table shows OLS regression estimates. The dependent variable measures *individual support* as a dummy that is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise). All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.1.4 Main results excluding speeders, inattentive respondents, and "low effort" respondents

Table A20. Effect of information on perceptions among attentive respondents

	Efficiency index (1)	Redistribution index (2)	Comparison index (3)
Efficiency treatment	0.173***	0.027	0.016
	(0.033)	(0.036)	(0.044)
Redistribution treatment	0.045	0.139***	-0.022
	(0.033)	(0.035)	(0.040)
Comparison treatment	0.038	0.011	0.790***
	(0.029)	(0.030)	(0.034)
Observations	1724	1724	1724
R^2	0.394	0.063	0.373
Control mean	0.000	0.000	0.000

Notes: The table shows OLS regression estimates. The dependent variables in column 1, 2, and 3 are summary indices that capture respondents' perceptions regarding carbon prices along the three dimensions covered by the information treatments. The indices are constructed following the methodology in Kling et al. (2007) and increase in size the more the perceptions are in line with the information of the respective treatment. All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A21. Effect of information on policy support among attentive respondents (reduced-form effects)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency treatment	0.038*	0.202***	0.096***	0.178**
	(0.020)	(0.057)	(0.034)	(0.086)
Redistribution treatment	0.028	0.075	0.066*	0.129
	(0.021)	(0.057)	(0.034)	(0.088)
Comparison treatment	0.024	0.142***	0.057*	0.048
	(0.017)	(0.048)	(0.029)	(0.077)
Observations	1724	1724	1724	1724
R^2	0.682	0.826	0.147	0.167
Control mean	0.394	3.685	0.357	3.804

Notes: This table shows OLS regression estimates. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A22. Effect of information on policy support among attentive respondents (IV estimates)

	Individual support		Social norm	
	(1) Dummy	(2) 7-point scale	(3) Dummy	(4) 7-point scale
Efficiency index	0.197*	1.126***	0.502**	0.931*
	(0.114)	(0.345)	(0.213)	(0.510)
Redistribution index	0.139	0.195	0.317	0.626
	(0.146)	(0.421)	(0.264)	(0.642)
Comparison index	0.019	0.124**	0.043	0.008
	(0.020)	(0.059)	(0.037)	(0.090)
Observations	1724	1724	1724	1724
Control mean	0.394	3.685	0.357	3.804

Notes: This table shows 2SLS regression estimates with randomized information treatments used as instruments for perceptions regarding carbon prices. The dependent variable in column 1 and 2 measures *individual support*: the dummy is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". The dependent variable in column 3 and 4 measures the *perceived social norm* (elicited by means of an incentivized variant of the coordination game by Krupka & Weber (2013)): the dummy is equal to one if the respondent thinks that the German population at least "rather supports" the introduction of the German carbon price (0 otherwise), the continuous seven-point measure is coded 1 = "Not support at all" through 7 = "Fully support". All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A23. Treatment effect heterogeneity among attentive respondents

	Dependent variable: Individual support		
	Interactant:		
	(1) Low income	(2) Trust in the government	(3) Climate change scepticism
Efficiency treatment (A)	0.045*	0.035	0.051**
	(0.025)	(0.022)	(0.024)
Redistribution treatment (B)	0.023	0.021	0.033
	(0.026)	(0.023)	(0.024)
Comparison treatment (C)	0.030	0.025	0.037*
	(0.022)	(0.019)	(0.021)
Interactant	0.009	0.054*	-0.019
	(0.032)	(0.032)	(0.030)
Efficiency t. × Interactant=1 (X)	-0.018	0.028	-0.062
	(0.042)	(0.049)	(0.042)
Redistribution t. × Interactant=1 (Y)	0.014	0.038	-0.026
	(0.043)	(0.052)	(0.046)
Comparison t. × Interactant=1 (Z)	-0.016	-0.004	-0.053
	(0.037)	(0.044)	(0.036)
Linear combination (A+X)	0.027	0.063	-0.011
p-value of joint F-test	0.416	0.151	0.748
Linear combination (B+Y)	0.037	0.059	0.008
p-value of joint F-test	0.277	0.213	0.848
Linear combination (C+Z)	0.014	0.020	-0.016
p-value of joint F-test	0.625	0.613	0.584
Observations	1724	1724	1724
R^2	0.682	0.684	0.684
Control mean	0.394	0.394	0.394

Notes: This table shows OLS regression estimates. The dependent variable measures *individual support* as a dummy that is equal to one if the respondent at least "rather supports" the introduction of the German carbon price (0 otherwise). All regressions include covariates, i.e. gender, age, household income, education, employment status, children, migration background, political affiliation, (self-reported) policy knowledge, and pre-acceptance. Robust standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.2 Variable definition

A.2.1 Socioeconomic characteristics & climate change awareness (indicator variables)

Female: respondent is a female.
18-29 years old: respondent's age is between 18 and 29 years.
30-39 years old: respondent's age is between 30 and 39 years.
40-49 years old: respondent's age is between 40 and 49 years.
50-59 years old: respondent's age is between 50 and 59 years.
60-69 years old: respondent's age is between 60 and 69 years.
HH income: 0-1,499€: respondent's net monthly household income (i.e, income of all household members after deducting taxes and contributions) is between €0 and €1,499.
HH income: 1,500-2,499€: respondent's net monthly household income (i.e, income of all household members after deducting taxes and contributions) is between €1,500 and €2,499.
HH income: 2,500-3,999€: respondent's net monthly household income (i.e, income of all household members after deducting taxes and contributions) is between €2,500 and €3,999.
HH income: 4,000€ +: respondent's net monthly household income (i.e, income of all household members after deducting taxes and contributions) is €4,000 and above.
Low income: respondent's net monthly household income (i.e, income of all household members after deducting taxes and contributions) is below €2,500.
No degree/basic degree: respondent received no degree (yet) or highest level achieved is primary or lower secondary education.
Vocational/high-school degree: respondent's highest degree is a vocational or high-school degree.
University degree: respondent's highest degree is a university degree.
Employed: respondent is currently full-time employed, part-time employed, in an apprenticeship/trainee program, or self-employed.
Unemployed: respondent is currently not employed.
German: respondent is born in Germany.
Children: respondent has children.
Living in rural areas: respondent lives in a rural area (i.e., a town of less than 5,000 inhabitants).
Living in the east: respondent lives in one of the new Länder.
Political pref.: CDU/CSU: respondent voted or would most likely have voted for the CDU/CSU in the 2017 federal election.
Political pref.: SPD: respondent voted or would most likely have voted for the SPD in the 2017 federal election.

Political pref.: Grüne: respondent voted or would most likely have voted for Bündnis 90/Grüne in the 2017 federal election.
Political pref.: AfD: respondent voted or would most likely have voted for the AfD in the 2017 federal election.
Political pref.: FDP: respondent voted or would most likely have voted for the FDP in the 2017 federal election.
Political pref.: Linke: respondent voted or would most likely have voted for the Linke in the 2017 federal election.
Political pref.: Other: respondent voted or would most likely have voted for another party in the 2017 federal election.
Political pref.: Not specified: respondent did not specify which party he/she voted or would most likely have voted for in the 2017 federal election.
Left leaning: respondent voted or would most likely have voted for either the SPD, Bündnis 90/Grüne, or Linke.
High policy knowledge: respondent believes that he/she is at least *"rather good"* informed about political topics and issues.
Low trust in the government: respondent *"agrees"/"strongly agrees"* that i) one can trust the government to do the right thing, and ii) the government is using taxpayer money well.
Prior support: respondent at least *"rather supports"* the introduction of the German carbon price before receiving any information.
Climate change scepticism: respondents' express doubts regarding climate change in one of the following dimensions

- Respondent *"disagrees"/"strongly disagrees"* that an overwhelming body of science agrees that a long-term warming trend exists.
- Respondent *"disagrees"/"strongly disagrees"* that a major cause of climate change is human activity.
- Respondent *"disagrees"/"strongly disagrees"* that climate change has serious consequences for people and nature.
- Respondent *"disagrees"/"strongly disagrees"* that scientists exaggerate the dangers of climate change.
- Respondent does *"rather not worry"/"not worry at all"* about climate change.

A.2.2 Perceptions

Efficiency index: based on the following variables

- *Indiv. behavior: Driving less*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will make people drive less.

- *Indiv. behavior: Pub. transport*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will make people choose environmentally friendly means of transport (e.g., bicycle or public transport).

- *Indiv. behavior: Saving energy*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will make people save energy (by, e.g., turning down the heating).

- *Indiv. behavior: Investments*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will make people use renewable energies.

- *Firm behavior: Investments*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will encourage companies to invest in climate-friendly technologies.

- *Firm behavior: Innovation*: indicator variable equal to one if the respondent thinks it is at least *"somewhat likely"* that the introduction of the carbon price in Germany will promote innovation in the field of climate protection.

Redistribution index: based on the following variables

- *High income HH financially burdened*: indicator variable equal to one if the respondent thinks that high income households will initially be financially burdened by the introduction of the carbon price in Germany *"a lot"/by "a great deal"*.

- *Low income HH financially burdened*: indicator variable equal to one if the respondent thinks that low income households will initially be financially burdened by the introduction of the carbon price in Germany *"a lot"/by "a great deal"*.

- *Low income HH pay higher share*: indicator variable equal to one if the respondent thinks that low-income households (Family "B") on average have to pay a higher share of their income for the carbon price.

- *Social revenue recycling*: indicator variable equal to one if the respondent thinks that *"a lot"/"a great deal"* of attention will be paid to a socially balanced financial burden when the carbon price is introduced in Germany.

Comparison index: based on the following variables

- *CHN has lower p.c. emissions than GER*: indicator variable equal to one if the respondent thinks that China has lower per-capita emission levels than Germany.
- *German p.c. emissions above EU average*: indicator variable equal to one if the respondent thinks that Germany ranks in the upper half of the EU member states with regard to the level of carbon emissions.
- *Several EU MS have national carbon price*: indicator variable equal to one if the respondent thinks that several EU member states (but not all) have a national carbon price already.

Index construction: The three summary indices, which aggregate information about the same domain of perceptions, are constructed according to the methodology in Kling et al. (2007). The three indices are therefore the equally weighted average of the z-scores of their components. As we calculate the z-scores by subtracting the mean of the control group and dividing by the standard deviation of the control group, each component of the index has a mean of 0 and a standard deviation of 1 for the control group. Furthermore, the indices are constructed in such a way that they increase the more the perceptions are in line with the content of the respective information treatment (e.g., the higher the *Efficiency index*, the better the understanding of negative external effects and the polluter pays principle and the higher the belief that individuals and firms change their behavior in response to the carbon price.)

A.2.3 Policy views

Individual support: respondent's answer to the question: *"Do you support the introduction of the carbon price in Germany in 2021?"* coded on a 1 to 7 scale, where 1 is *"Not support at all"*, 4 is *"Neither nor"*, and 7 is *"Fully support"*. When defined as an indicator variable, this measure is equal to one if the respondent at least *"rather supports"* the introduction of the carbon price.
Social norm: respondent's answer to the question: *"To what extent is the introduction of the carbon price supported by the population in Germany?"* coded on a 1 to 7 scale, where 1 is *"Not support at all"*, 4 is *"Neither nor"*, and 7 is *"Fully support"*. When defined as an indicator variable, this measure is equal to one if the respondent thinks that the German population on average at least *"rather supports"* the introduction of the carbon price.
Perceived fairness: respondent's answer to the question: *"How fair do you think the introduction of the carbon price in Germany is overall?"* coded on a 1 to 5 scale, where 1 is *"Very unfair"*, 3 is *"Neither fair nor unfair"*, and 5 is *"Very fair"*. When defined as an indicator variable, this measure is equal to one if the respondent thinks that the introduction of the carbon price is overall *"fair"/"(very) fair"*.
Perceived suitability to reduce climate change: respondent's answer to the question: *"To*

what extent do you consider the carbon price in Germany to be a suitable means of reducing climate change?" coded on a 1 to 5 scale, where 1 is *"Very unsuitable"*, 3 is *"Neither suitable nor unsuitable"*, and 5 is *"Very suitable"*. When defined as an indicator variable, this measure is equal to one if the respondent thinks that the introduction of the carbon price is a *"somewhat suitable"/"very suitable"* measure to reduce climate change.
Willingness to donate for emission reductions: Share of the lottery that the respondent is willing to donate for the reduction of carbon. When defined as an indicator variable, this measure is equal to one if the respondent is willing donate a positive amount of their potential lottery win for the reduction of carbon.

A.2.4 Other variables

Efficiency treatment: respondent was randomized to see the information on the behavioral and efficiency effects of carbon pricing.
Redistribution treatment: respondent was randomized to see information on the distributional aspects of carbon pricing in general and the German carbon price in particular.
Comparison treatment: respondent was randomized to see the information on global per-capita emission levels and national carbon pricing initiatives.
No treatment: respondent was randomized to see no information treatment, i.e., the control group (usually omitted category in the regressions).

Dropped out: indicator variable equal to one if ...

- *Total*: ...the respondent dropped out of the survey at some point.
- *After SES questions*: ...the respondent dropped out of the survey during the background information questions but before learning about the topic of the survey.
- *Upon learning about the topic*: ...the respondent dropped out of the survey upon learning about the subject of the survey (i.e., during first-order considerations or question on prior support).

Speeders: indicator variable equal to one if the respondent is in the bottom 5% of the survey time distribution of his/her experimental group.
Inattentive respondents: indicator variable equal to one if the respondent failed the attention check (see question no. 22 in the questionnaire).
Low effort respondents: indicator variable equal to one if the respondent indicates that he/she has put *"Little"* effort or "None at all" into answering the questions.

A.3 Full questionnaire (English)

A.3.1 Welcome and introduction

Welcome to this survey! We are pleased that you are taking the time to help us. We are a group of scientists from the University of Passau and the Technical University of Munich. In this survey we would like to learn about human attitudes and views on various topics. Please read the following information carefully before starting the questionnaire.
This is an anonymous survey. Your name is not recorded at any time, i.e. your answers can never be assigned to your person and all stored data is anonymized. The resulting data will only be analyzed holistically.
You will be rewarded for participating in this survey. In addition, you have the opportunity to win extra mingle points. To receive the full reward and possible extra points, the following criteria must be met:

- You must fill in the questionnaire to the end.
- You must complete the questionnaire to the best of your knowledge.

For the success of this study, it is very important that you read all the questions carefully and answer honestly. It is not a problem if you should not know answers to one or more questions. In this case, please provide your best guess without using other sources. In addition, please note that there is no possibility to go back throughout the survey. Therefore, do not click any further until you have double-checked your answers.
We hope you enjoy the survey!

A.3.2 Background information

The survey is about to start! At the beginning of the survey we would like to ask you to provide us with some information about yourself. It is very important for the success of the study that you reply truthfully.

1. Please indicate your gender:
   Female; Male; Diverse
2. How old are you?
3. What is your household's net monthly income (that is, the sum of all household members' monthly income after taxes and duties)?
   Less than 1,500€; 1,500€ - 2,499€; 2,500 - 4,000€; more than 4,000€
4. What is your household's gross annual income (that is, the sum of all household members' incomes before taxes and duties)?
   Less than 10,000€; 10,000€ - 14,999€; 15,000€ - 19,999€; 20,000€ - 29,999€;

30,000€ - 39,999€; 40,000€ - 49,999€; 50,000€ - 69,999€; 70,000€ - 89,999€; 90,000€ - 109,999€; 110,000€ - 149,999€; 150,000€ - 199,999€; more than 200,000€

5. How many people are in your household?

6. What is your marital status?
   Married or registered partnership; Single; Divorced; Widowed

7. How many children do you have?
   I have no children; 1; 2; 3; 4; 5 or more

8. What is your highest level of education?
   No qualification (yet); Primary or lower secondary education or equivalent qualification; Secondary school leaving certificate; University entrance degree; vocational training, apprenticeship or training at a technical college; University degree (Bachelor degree, Master degree,...); University degree (doctoral degree or post-doctoral qualification); other qualification

9. Are you currently employed?
   Full-time employee; Part-time employee; Trainee or apprentice; Not employed, job-seeking; Not employed, not job-seeking; Pupil or student; Self-employed; Retired, pensioner; Other

10. Were you born in Germany?
    Yes; No

11. In which state do you live?
    Baden-Württemberg; Bavaria; Berlin; Brandenburg; Bremen; Hamburg; Hesse; Mecklenburg-Western Pomerania; Lower Saxony; North Rhine-Westphalia; Rhineland-Palatinate; Saarland; Saxony; Saxony-Anhalt; Schleswig-Holstein; Thuringia; I do not live in Germany

12. How many inhabitants does your current place of residence have?
    Less than 5,000 inhabitants (rural municipality); More than 5,000 and less than 20,000 inhabitants (small town); More than 20,000 and less than 100,000 inhabitants (medium-sized town); More than 100,000 inhabitants (large town)

Below we ask you some questions about your political interests and attitudes. We are aware that the Corona pandemic is having a major impact on all of us. Nevertheless, try to answer the following questions as far as possible independently of Corona. Additionally, keep in mind that your data will be treated strictly anonymously.

13. Have you participated in the last federal election?
    Yes; No

14. (if 13. = yes) Which party did you vote for in the last federal election?
CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Another party; Not specified

15. (if 13. = no) Which party would you most likely have voted for in the last federal election?
CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Another party; Not specified

16. Imagine that there were federal elections today. Which party would you vote for today?
CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Another party; Not specified

17. To what extent do you agree with the following statements?

    - In general, people can be trusted.
    - You can trust the government to do the right thing.
    - The government is using taxpayer money well.

    Strongly disagree; Disagree; Neither agree nor disagree; Agree; Strongly agree

18. What sources do you mainly use to keep up to date with political events in Germany and the world?
Television; Print media (newspaper and magazines); Online offerings of established media; Radio; Social media (Facebook, Twitter, YouTube, Instagram, etc.); Other

19. Do you primarily use a particular website, social media outlet, TV or radio program, or newspaper/news magazine to get breaking news?
Yes; No

20. (if 19. = yes) Which particular offer do you use?

21. How important do you consider it to be politically informed?
Very unimportant; Rather unimportant; Neither important nor unimportant; Rather important; Very important

22. How important do you consider it for others to be politically informed?
This question is meant to check your attention. Please select all answers.
Very unimportant; Rather unimportant; Neither important nor unimportant; Rather important; Very important

23. How well do you think you are informed about political topics and issues?
Very bad; Rather bad; Neither important nor unimportant; Rather good; Very good

24. What do you think are the two most important problems that Germany is facing at the moment? Please try to not consider the Corona pandemic for you answer.
You can select a maximum of two topics.
Crime; Economic situation; Rising prices/inflation/cost of living; Taxes; Unemployment; Terrorism; Housing/housing; National debt; Immigration; Health and social security; Education system; Pensions; Environmental and climate and energy issues; Other

Thank you for answering the personal questions! In the following, we would now like to ask you a few more general questions. We are interested in your opinion and thoughts. There are no right or wrong answers!

A.3.3 First-order considerations and prior support

25. Carbon pricing is a climate policy measure that requires payments for every ton of carbon emitted. While such a carbon price has already been in place for most parts of the energy and industry sector at the European level since 2005, there will also be a price on emissions generated by the heating and transport sector in Germany as of January 2021.

    When you think of the introduction of the carbon price in Germany, what are the first thoughts that come to your mind?
    Please use the text box and write as much as you like.

26. In your view, what are the advantages of introducing the carbon price in Germany?
Please use the text box and write as much as you like.

27. In your view, what are the disadvantages of introducing the carbon price in Germany?
Please use the text box and write as much as you like.

28. Do you support the introduction of the carbon price in Germany in 2021?
Not support at all; Not support; Rather not support; Neither nor; Rather support; Support; Fully support

A.3.4 Attitudes towards climate change

29. Below you can read several opinions on climate change. To what extent do you agree with these opinions?

    - An overwhelming body of science agrees that a long-term warming trend exists.

- A major cause of climate change is human activity.
- Climate change has serious consequences for people and nature.
- Scientists exaggerate the dangers of climate change.

Strongly disagree; Disagree; Neither agree nor disagree; Agree; Strongly agree

30. To what extent do you feel a personal responsibility to try to reduce climate change?
Not responsible at all; Rather not responsible; Neither nor; Rather responsible; Very responsible

31. How concerned are you about climate change?
Not worried at all; Rather not worried; Neither worried nor unworried; Rather worried; Very worried

A.3.5 Information treatments

This part is skipped in the control group.

The second part of the survey begins! In the following, we will provide you with information on carbon pricing. Please read the information carefully. We will ask you questions about it afterwards. Please do not proceed to the next page until you have read the entire text.

Efficiency treatment Carbon pricing is discussed around the world as measure to *reduce carbon emissions* (or greenhouse gases) and thus to meet national and international climate agreements. It increases the price of goods and services that produce carbon emissions and therefore *creates financial burdens for individuals and firms*. This especially affects those who emit much through either their (consumption) behavior or their production methods. However, carbon emissions also lead to *societal costs* in the long run. These costs include rising average temperatures and the associated consequences. If there is no carbon pricing, the public, and not the polluter, has to pay for these costs. For this reason, carbon pricing is based on the idea that *whoever emits carbon must pay for it*. This creates *financial incentives to reduce carbon-intensive behavior*. For instance, it becomes more attractive for people to drive less, to use environmentally friendly transportation, to reduce energy consumption or to switch to renewable energies. For companies, it becomes more attractive to invest in climate-friendly technologies. As this also makes innovations in the field of climate protection more attractive, carbon pricing can be seen not only as a measure to reduce emissions, but also as a driver of innovation.

[New page:] The following figure summarizes the information in the text: see Figure 2a

Redistribution treatment Carbon pricing is discussed around the world as measure to *reduce carbon emissions* (or greenhouse gases) and thus to meet national and international climate agreements. Although *low-income households* typically behave more environmentally friendly, they are *relatively more affected* by carbon pricing. This is because, on average, low-income households have to spend a higher proportion of their income on, for example, fuel and heating. At the same time, however, carbon pricing generates *additional government revenues*. These revenues can be redistributed in a socially balanced way, e.g. in the form of lump sums or other tax reductions. This will *provide financial relief* for all households, but especially for those with a low income. In Germany, the redistribution is to take place primarily by a decrease in the energy prices, an increase in commuter tax allowances and an increase in the rent subsidy for citizens with low incomes.

[New page:] The following figure summarizes the information in the text: see Figure 2b

Comparison treatment Looking at the per capita emission levels of different countries, one can see that China produced 8.1 tons of carbon emissions per capita in 2019. This means that *China has lower per capita emissions than Germany*. When comparing per capita carbon emissions in the EU, *Germany ranks 6th*—producing 8.5 tons of carbon emissions per capita. Thus, Germany's emission levels are *above the EU average*. To reduce emission levels, *eleven EU member states* currently have a national carbon price besides the European emissions trading scheme.

[New page:] The following figure summarizes the information in the text: see Figure 2c

A.3.6 Perceptions

The last part of the survey begins! Thank you for reading the information![8] On the following pages, we will again ask you some questions. In doing so, we ask you for your personal assessment or conviction. Your opinion is of great importance to us. Therefore, please answer as well as possible and do not use third party sources.

32. What do you think the per capita carbon emissions were in China in 2019 (in tons)? Additional information: In Germany, per capita carbon emissions in 2019 were 8.5 tons per inhabitant.
    Please enter your answer in the text field.

33. Which rank do you think Germany holds in terms of per capita carbon emissions in the EU?

[8] This sentence is not displayed for respondents of control group

Additional information: Rank 1 corresponds to the highest per capita carbon emissions in the EU. The EU has 27 member states.
Please enter only one number as an answer in the text box.

34. How many of the EU member states do you think currently have a national carbon pricing scheme in place alongside the European carbon price?
Please enter your answer in the text field.

35. In your opinion, what share does Germany contribute to reducing global carbon emissions?
Much less than the fair share; Less than the fair share; The fair share; More than the fair share; Much more than the fair share

36. Do you think that Germany should do as much, more or less to reduce carbon emissions in the future?
Much less; Somewhat less; Same amount; Somewhat more; Much more

37. Who will pay for the consequences of carbon emissions if there is no carbon price?
The general public; The polluter; Nobody

38. Who will pay for the consequences of carbon emissions if there is a carbon price?
The general public; The polluter; Nobody

39. How likely do you think it is that the introduction of the carbon price in Germany will make people...

    - ...drive less.
    - ...choose environmentally friendly means of transport (e.g. bicycle, public transport).
    - ...save energy (e.g., turn down the heating).
    - ...use renewable energies.

    Very unlikely; Somewhat likely; Neither likely nor unlikely, Somewhat likely; Very likely

40. How likely do you think it is that the introduction of the carbon price in Germany will encourage companies to invest in climate-friendly technologies?
Very unlikely; Somewhat likely; Neither likely nor unlikely, Somewhat likely; Very likely

41. How much do you think the introduction of the carbon price in Germany will promote innovation in the field of climate protection?
Not at all; Little; Medium; Strongly; Very strongly

42. Which statement do you agree with the most?
Please select the one that is closest to your views, even if it does not perfectly match your views.

    - The introduction of the carbon price will harm the German economy in the long run
    - The introduction of the carbon price will have no effect on the German economy in the long run
    - The introduction of the carbon price will help the German economy in the long run.

43. To what extent do you consider the carbon price in Germany to be a suitable means of reducing climate change?
Very unsuitable; Somewhat unsuitable; Neither suitable nor unsuitable; Somewhat suitable; Very suitable

44. How fair do you think it is that people and companies that cause particularly high levels of carbon through their behavior or production methods should be financially burdened more by the introduction of the carbon price in Germany?
Very unfair; Somewhat unfair; Neither fair nor unfair; Somewhat fair; Very fair

45. To what extent do you think the following groups will initially be financially burdened by the introduction of the carbon price in Germany?

    - High-income households
    - Middle-income households
    - Low-income households

    Not at all; A little; A moderate amount; A lot; A great deal

46. Imagine two families. Family "A" has an annual income of 100,000 EUR. Family "B" has an annual income of 35,000 EUR. Which statement do you agree with the most?
Please select the one that is closest to your views, even if it does not perfectly match your views.
Family "A" spends a larger share of its income on e.g. fuel and heating and thus on the carbon price than family "B"; Family "A" spends a smaller share of its income on e.g. fuel and heating and thus on the carbon price than family "B"

47. How much attention do you think will be paid to a socially balanced financial burden when the carbon price is introduced in Germany?
Not at all; A little; A moderate amount; A lot; A great deal

48. How fair do you think it is that low-income households pay the same price for a ton of carbon as high-income households?
Unfair; Somewhat unfair; Neither fair nor unfair; Somewhat fair; Very fair

A.3.7 Policy views

49. How fair do you think the introduction of the carbon price in Germany is overall?
Very unfair; Somewhat unfair; Neither fair nor unfair; Somewhat fair; Very fair

50. Do you support the introduction of the carbon price in Germany in 2021?
Not support at all; Not support; Rather not support; Neither nor; Rather support; Support; Fully support

A.3.8 Behavioral measures

By participating in this survey, you automatically take part in a lottery in which you can win an additional 1,000 mingle points. Three participants will be drawn at the end of the survey and will have this amount credited to their account. Below you can donate a part of the lottery winnings for the reduction of carbon. This amount will only be donated if you actually win the lottery. You will then also receive a certificate of your donation. The rest of the winnings will be credited to your account.

51. If you win the lottery, how many of the 1,000 mingle points will you donate to a carbon offset?
Please enter a value between 0 and 1,000.

For the following question, please select the answer you think most other survey participants will give. If your answer actually matches the answer of most of the other participants, you will receive an additional 50 mingle points credited to your account.

52. To what extent is the introduction of the carbon price supported by the population in Germany?
Please select what you think most other survey participants answered to this question.
Not support at all; Not support; Rather not support; Neither nor; Rather support; Support; Fully support

A.3.9 Self-reported questions and feedback

53. To what extent have you already been looking into the introduction of the carbon price in Germany before today?
Not at all; Little; Medium; Much; Very much

54. How confident did you feel in answering the questions about the carbon price?
Very uncertain; Rather uncertain; Neither certain nor uncertain; Rather certain; Very certain

55. TREATMENT GROUP In the course of the survey, you were given information about the carbon price. How trustworthy do you rate this information?
Not at all trustworthy; Rather not trustworthy; Neither; Rather trustworthy; Very trustworthy

56. Would you like to receive a summary of relevant information on the carbon price? The information will be made available to you following the survey. You can then also share this with your family, friends and acquaintances.
Yes; No

57. How much effort did you put into answering the questions?
None at all; Little; Medium; Much; Very much

58. Is there anything else you would like to share with us at the end of this survey?

A.4 Full questionnaire (Original version)

A.4.1 Begrüßung und Einleitung

Herzlich willkommen zu dieser Umfrage! Wir freuen uns, dass Sie sich die Zeit nehmen, um uns zu helfen. Wir sind eine Gruppe von Wissenschaftlern und Wissenschaftlerinnen der Universität Passau und der Technischen Universität München. In dieser Umfrage möchten wir etwas über menschliche Einstellungen und Ansichten zu verschiedenen Themen lernen.
Bitte lesen Sie die folgenden Informationen aufmerksam durch, bevor Sie den Fragebogen beginnen.
Dies ist eine anonymisierte Umfrage. Ihr Name wird zu keinem Zeitpunkt aufgezeichnet, d.h. Ihre Antworten können niemals Ihrer Person zugeordnet werden und alle gespeicherten Daten sind anonymisiert. Die entstandenen Daten werden nur gesamtheitlich ausgewertet.
Sie werden für die Teilnahme an dieser Umfrage entlohnt. Darüber hinaus haben Sie die Möglichkeit zusätzliche mingle-Punkte zu gewinnen. Um die vollständige Entlohnung und mögliche Extra-Punkte zu erhalten, müssen folgende Kriterien erfüllt sein:

- Sie müssen den Fragebogen bis zum Ende ausfüllen.
- Sie müssen den Fragebogen nach bestem Wissen und Gewissen ausfüllen.

Für den Erfolg dieser Studie ist es sehr wichtig, dass Sie alle Fragen genau durchlesen und ehrlich antworten. Es stellt kein Problem dar, wenn Sie Antworten auf eine oder mehrere Fragen nicht wissen sollten. In diesem Fall geben Sie bitte Ihre beste Vermutung ab, ohne andere Quellen zu nutzen. Bitte beachten Sie darüber hinaus, dass es während der gesamten Umfrage keine Möglichkeit gibt, zurückzugehen. Klicken Sie daher erst weiter, wenn Sie Ihre Angaben überprüft haben.
Wir wünschen Ihnen viel Spaß bei der Umfrage!

A.4.2 Demographische Daten

Die Umfrage kann losgehen!
Zu Beginn der Umfrage möchten wir Sie bitten, uns ein paar Informationen zu Ihrer Person zu geben. Für den Erfolg der Studie ist sehr wichtig, dass Sie wahrheitsgetreu antworten.

1. Bitte geben Sie Ihr Geschlecht an:
   Weiblich; Männlich; Divers
2. Wie alt sind Sie?

3. Wie hoch ist das monatliche Nettoeinkommen Ihres Haushaltes (das heißt: die Summe der monatlichen Einkommen aller Haushaltsmitglieder nach Abgaben und Steuern)?
   unter 1.500€; 1.500€ - 2.499€; 2.500 - 4.000€; über 4.000€

4. Wie hoch ist das jährliche Bruttoeinkommen Ihres Haushaltes (das heißt: die Summe der Einkommen aller Haushaltsmitglieder vor Abgaben und Steuern)?
   unter 10.000€; 10.000€ - 14.999€; 15.000€ - 19.999€; 20.000€ - 29.999€; 30.000€ - 39.999€; 40.000€ - 49.999€; 50.000€ - 69.999€; 70.000€ - 89.999€; 90.000€ - 109.999€; 110.000€ - 149.999€; 150.000€ - 199.999€; über 200.000€

5. Wie viele Personen gehören zu Ihrem Haushalt?

6. Welchen Familienstand haben Sie?
   Verheiratet oder eingetragene Lebenspartnerschaft; Ledig; Geschieden; Vermittwet

7. Wie viele Kinder haben Sie?
   Ich habe keine Kinder; 1; 2; 3; 4; 5 oder mehr

8. Was ist ihr höchster Bildungsabschluss?
   (Noch) kein Abschluss; Hauptschulabschluss; Realschulabschluss (Mittlere Reife); Allgemeine oder fachgebundene Hochschulreife/Abitur (Gymnasium bzw. EOS); Berufsausbildung, Lehre oder Ausbildung an einer Fachschule; (Fach-) Hochschulabschluss (Bachelor, Master, Magister, Diplom, Staatsexamen); Doktorgrad oder Habilitation; Anderer Abschluss

9. Sind Sie zurzeit erwerbstätig?
   Vollzeit Angestellte/-r; Teilzeit Angestellte/-r; Auszubildende/r oder Lehrling oder Umschüler/-in; Nicht erwerbstätig, arbeitssuchend;Nicht erwerbstätig, nicht arbeitssuchend; Schüler/-in oder Student/-in; Selbstständige/-r; Rentner/-in, Pensionär/-in; Sonstiges

10. Sind Sie in Deutschland geboren?
    Ja; Nein

11. In welchem Bundesland leben Sie?
    Baden-Württemberg; Bayern; Berlin; Brandenburg; Bremen; Hamburg; Hessen; Mecklenburg-Vorpommern; Niedersachsen; Nordrhein-Westfalen; Rheinland-Pfalz; Saarland; Sachsen; Sachsen-Anhalt; Schleswig-Holstein; Thüringen; Ich lebe nicht in Deutschland

12. Wie viele Einwohner/-innen hat Ihr aktueller Wohnort?
    Unter 5.000 Einwohner/-innen (Landgemeinde); Über 5.000 und unter 20.000 Einwohner/-

innen (Kleinstadt); Über 20.000 und unter 100.000 Einwohner/-innen (Mittelstadt); Über 100.000 Einwohner/-innen (Großstadt)

Im Folgenden stellen wir Ihnen einige Fragen zu Ihren politischen Interessen und Einstellungen. Uns ist bewusst, dass die Corona-Pandemie uns alle stark beeinträchtigt. Versuchen Sie dennoch, die folgenden Fragen, so weit es geht, unabhängig von Corona zu beantworten. Behalten Sie zusätzlich im Hinterkopf, dass Ihre Daten streng anonymisiert behandelt werden.

13. Haben Sie an der letzten Bundestagswahl teilgenommen?
    Ja; Nein

14. (if 13. = Ja) Welche Partei haben Sie bei der letzten Bundestagswahl gewählt?
    CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Eine andere Partei; Keine Angabe

15. (if 13. = Nein) Welche Partei hätten Sie bei der letzten Bundestagswahl am ehesten gewählt?
    CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Eine andere Partei; Keine Angabe

16. Stellen Sie sich vor, dass heute Bundestagswahl wäre. Welcher Partei würden Sie heute Ihre Stimme geben?
    CDU/CSU; SPD; Bündnis 90/Die Grünen; AfD; FDP; Die Linke; Eine andere Partei; Keine Angabe

17. Inwieweit stimmen Sie den folgenden Aussagen zu?

    - Im Allgemeinen kann man den Menschen vertrauen.
    - Man kann darauf vertrauen, dass die Regierung das Richtige tut.
    - Die Regierung verwendet das Geld der Steuerzahler gut.

    Stimme überhaupt nicht zu; Stimme nicht zu; Weder noch; Stimme zu; Stimme voll und ganz zu

18. Welche Quellen nutzen Sie hauptsächlich, um sich über das politische Geschehen in Deutschland und der Welt auf dem Laufenden zu halten?
    Fernsehen; Printmedien (Zeittungen und Magazine); Onlineangebote etablierter Medien; Radio; Soziale Medien (Facebook, Twitter, YouTube, Instagram etc.); Andere

19. Nutzen Sie vorrangig eine bestimmte Website, ein Social-Media-Angebot, eine TV- oder Radio-Sendung oder eine Zeitung/Nachrichtenmagazin, um sich über aktuelle Nachrichten zu informieren?
    Ja; Nein

20. (if 19. = Ja) Welches bestimmte Angebot nutzen Sie?

21. Für wie wichtig erachten Sie es, politisch informiert zu sein?
Sehr unwichtig; Eher unwichtig; Weder noch; Eher wichtig; Sehr wichtig

22. Für wie wichtig erachten Sie es, dass Andere politisch informiert sind?
Die Frage dient lediglich der Überprüfung der Aufmerksamkeit. Bitte wählen Sie hier alle Antworten aus.
Sehr unwichtig; Eher unwichtig; Weder noch; Eher wichtig; Sehr wichtig

23. Wie gut kennen Sie sich Ihrer Meinung nach mit politischen Themen und Fragen aus?
Sehr schlecht; Eher schlecht; Weder noch; Eher gut; Sehr gut

24. Was sind Ihrer Meinung nach die beiden wichtigsten Probleme, denen Deutschland derzeit gegenübersteht? Bitte versuchen Sie auch hier die Corona-Pandemie außen vor zu lassen.
Sie können maximal zwei Themenfelder auswählen.
Kriminalität; Wirtschaftliche Lage; Steigende Preise/Inflation/Lebenshaltungskosten; Steuern; Arbeitslosigkeit; Terrorismus; Wohnungsbau/Wohnungsbeschaffung; Staatsverschuldung; Einwanderung; Gesundheit und soziale Sicherung;Bildungssystem; Renten; Umwelt- sowie Klima-und Energiefragen; Andere

Vielen Dank für die Beantwortung der personenbezogenen Fragen! Im Folgenden möchten wir Ihnen nun ein paar allgemeinere Fragen stellen. Uns interessieren Ihre Meinung und Gedanken. Dabei gibt es keine richtigen oder falschen Antworten!

A.4.3 Erste Überlegungen und Unterstützung vor Treatment

25. Ein CO_2-Preis ist ein Instrument der Klimapolitik. Er sieht vor, dass für jede ausgestoßene Tonne CO_2 bezahlt werden muss. Auf europäischer Ebene gibt es bereits seit 2005 einen CO_2-Preis für weite Teile der Energiewirtschaft und Industrie. In Deutschland wird ab Januar 2021 der Ausstoß von CO_2 zusätzlich in den Bereichen Verkehr und Gebäudewärme einen Preis bekommen.

    Wenn Sie an die Einführung des CO_2-Preises in Deutschland denken, welche Gedanken kommen Ihnen als erstes in den Kopf?
    Bitte benutzen Sie das Textfeld und schreiben Sie so viel Sie möchten.

26. Was sind aus Ihrer Sicht Vorteile, die die Einführung des CO_2-Preises in Deutschland mit sich bringt?
    Bitte benutzen Sie das Textfeld und schreiben Sie so viel Sie möchten.

27. Was sind aus Ihrer Sicht Nachteile, die die Einführung des CO_2-Preises in Deutschland mit sich bringt?
Bitte benutzen Sie das Textfeld und schreiben Sie so viel Sie möchten.

28. Unterstützen Sie die Einführung des CO_2-Preises in Deutschland im Jahr 2021?
Unterstütze ich überhaupt nicht; Unterstütze ich nicht; Unterstütze ich eher nicht; Weder noch; Unterstütze ich eher; Unterstütze ich; Unterstütze ich voll und ganz

A.4.4 Einstellungen zum Klimawandel

29. Im Folgenden lesen Sie mehrere Meinungen zum Klimawandel. Inwieweit stimmen Sie diesen Meinungen zu?

    - Ein überwiegender Teil der Wissenschaft ist sich einig, dass ein langfristiger Erwärmungstrend existiert.
    - Ein Hauptgrund für den Klimawandel sind menschliche Aktivitäten.
    - Der Klimawandel hat schwerwiegende Folgen für Mensch und Natur.
    - Wissenschaftler übertreiben die Gefahren des Klimawandels.

    Stimme überhaupt nicht zu; Stimme nicht zu; Weder noch; Stimme zu; Stimme voll und ganz zu

30. Inwieweit fühlen Sie sich persönlich dafür verantwortlich, zu versuchen, den Klimawandel zu reduzieren?
Überhaupt nicht verantwortlich; Eher nicht verantwortlich; Weder noch; Eher verantwortlich; Sehr verantwortlich

31. Wie besorgt sind Sie über den Klimawandel?
Überhaupt nicht besorgt; Eher nicht besorgt; Weder noch; Eher besorgt; Sehr besorgt

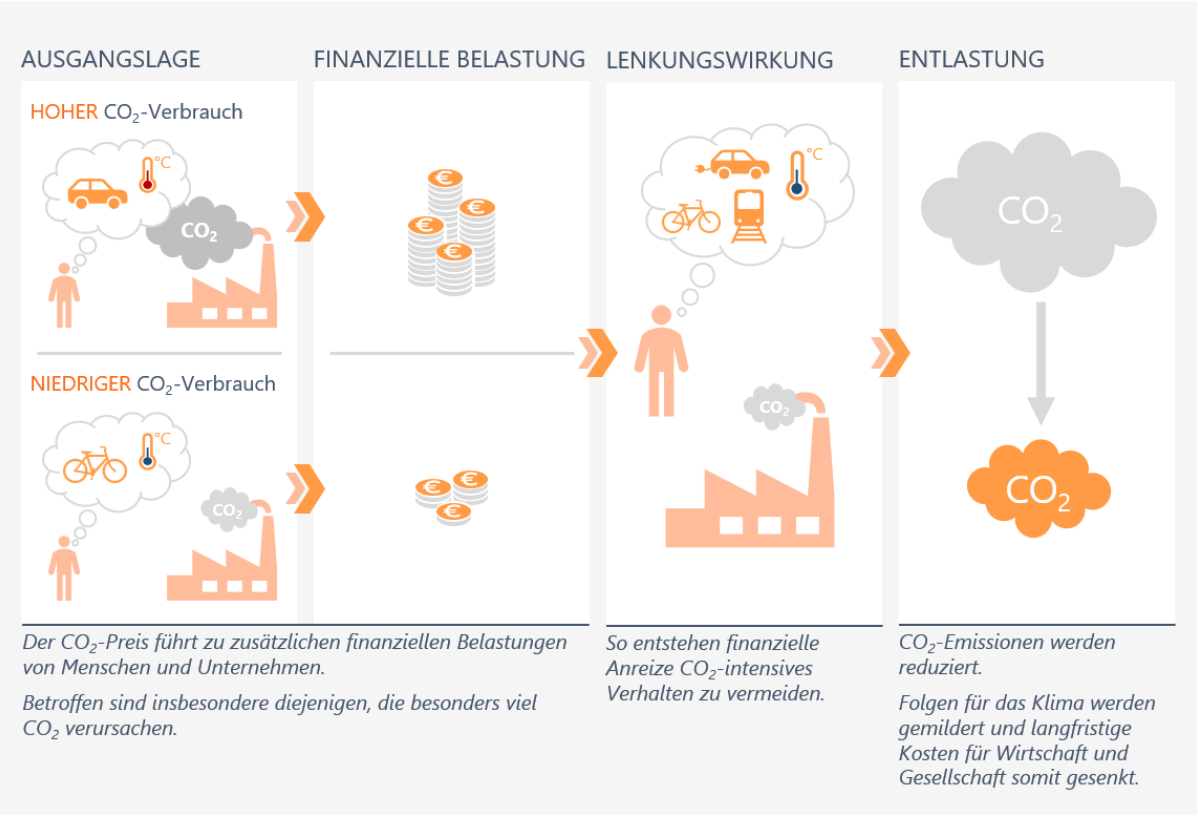
A.4.5 Informationstreatments

Dieser Teil wird in der Kontrollgruppe nicht angezeigt.
Der zweite Teil der Umfrage kann nun beginnen! Im Folgenden werden wir Ihnen Informationen zur CO_2-Bepreisung geben. Bitte lesen Sie sich die Informationen genau durch. Wir werden Ihnen im Anschluss Fragen dazu stellen. Bitte fahren Sie erst zur nächsten Seite fort, wenn Sie den Text vollständig gelesen haben.

Efficiency treatment Der CO_2-Preis ist ein Instrument der Klimapolitik, dessen Einsatz zur *Reduzierung von CO_2-Emissionen* (bzw. Treibhausgasen) und damit zur Erfüllung von nationalen und internationalen Klimavereinbarungen auf der ganzen Welt diskutiert wird. Ein CO_2-Preis führt zu Preissteigerungen von Gütern und Dienstleistungen,

die bei der Herstellung oder beim Verbrauch CO_2 verursachen. Dadurch entstehen *zusätzliche finanzielle Belastungen für Menschen und Unternehmen.* Davon sind insbesondere diejenigen betroffen, die über ihren Konsum, ihr Verhalten oder ihre Produktionsweise besonders viele Emissionen in die Luft ablassen. Jedoch führt der nicht bepreiste Ausstoß von CO_2 langfristig auch zu *gesellschaftlichen Kosten.* Zu diesen Kosten gehören die weltweit steigenden Temperaturen und die damit verbundenen Klimafolgen. Ohne eine CO_2-Bepreisung kommt nicht der Verursacher oder die Verursacherin selbst, sondern die Allgemeinheit für diese Kosten auf. Aus diesem Grund basiert der CO_2-Preis auf dem Prinzip: *wer CO_2 ausstößt, muss dafür bezahlen.* So entstehen *Anreize, CO_2-intensives Verhalten zu reduzieren.* Für Menschen wird es z.B. finanziell attraktiver, weniger Auto zu fahren, umweltfreundlichere Verkehrsmittel zu nutzen, ihren Energieverbrauch zu reduzieren oder erneuerbare Energien zu verwenden. Für Unternehmen entstehen Anreize, in klimaschonende Technologien zu investieren. Da somit auch Innovationen im Bereich Klimaschutz immer attraktiver werden, kann ein CO_2-Preis nicht nur als Mittel gegen den Klimawandel, sondern auch als Innovationstreiber für die Wirtschaft gesehen werden.

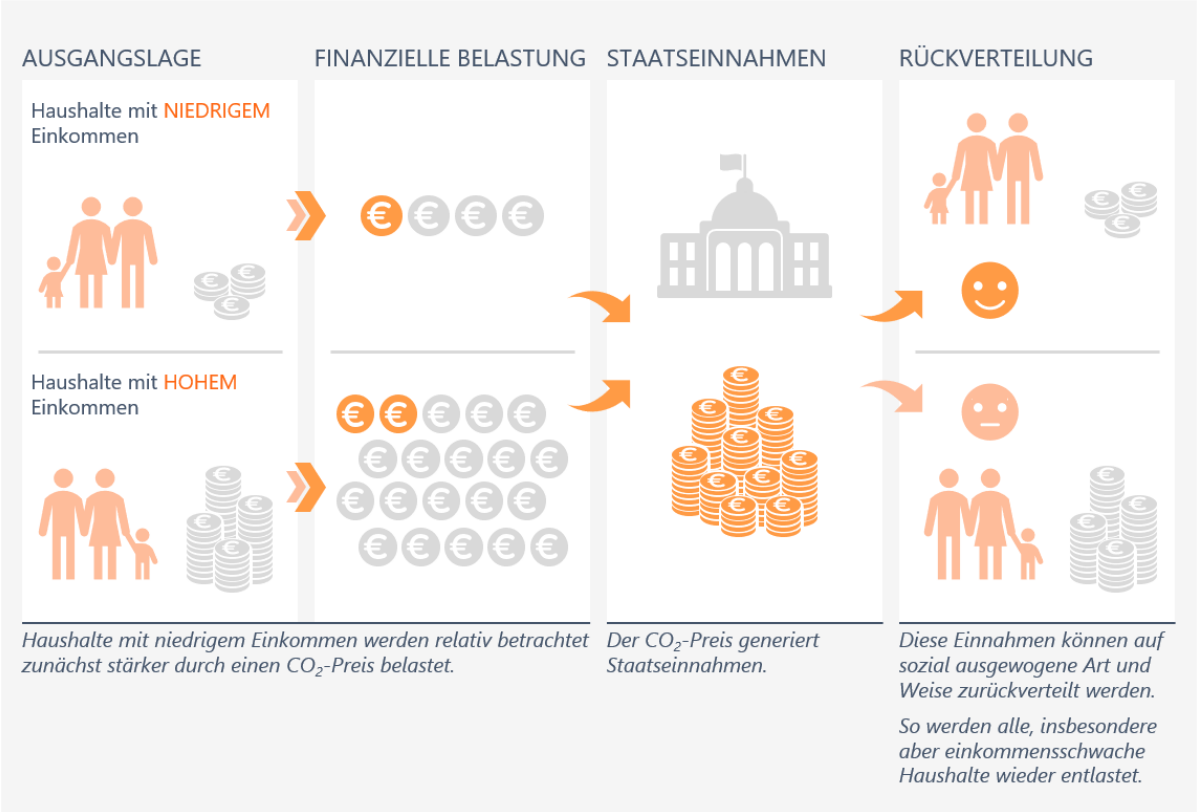
[New page:] Die folgende Grafik fasst die Informationen zusammen:



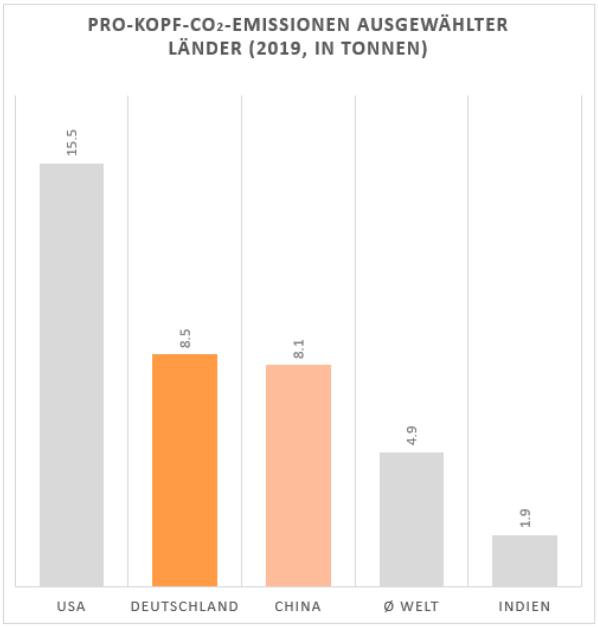
Redistribution treatment Der CO_2-Preis ist ein Instrument der Klimapolitik, dessen Einsatz zur *Reduzierung von CO_2-Emissionen* (oder Treibhausgasen) und damit zur Er-

füllung von nationalen und internationalen Klimavereinbarungen auf der ganzen Welt diskutiert wird. Obwohl *Haushalte mit einem niedrigen Einkommen* im Schnitt klimafreundlicher leben, werden sie, relativ betrachtet, durch einen CO_2-Preis *stärker belastet* als Haushalte mit einem hohen Einkommen. Das liegt daran, dass einkommensschwache Haushalte im Schnitt einen höheren Anteil ihres Einkommens z.B. für Kraftstoffe und Heizung und damit für die CO_2-Bepreisung aufbringen müssen. Gleichzeitig führt eine CO_2-Bepreisung aber auch zu *zusätzlichen Staatseinnahmen*. Diese können auf eine sozial ausgewogene Art und Weise – z.B. in Form von Pauschalbeträgen oder anderweitigen Steuersenkungen – an die Bürgerinnen und Bürger zurückgegeben werden. Dadurch werden alle Haushalte, insbesondere aber diejenigen mit einem niedrigen Einkommen, *wieder finanziell entlastet*. In Deutschland soll die Rückverteilung vor allem über sinkende Strompreise, eine Erhöhung der Pendlerpauschale sowie eine Besserstellung von Wohngeldbeziehern erfolgen.

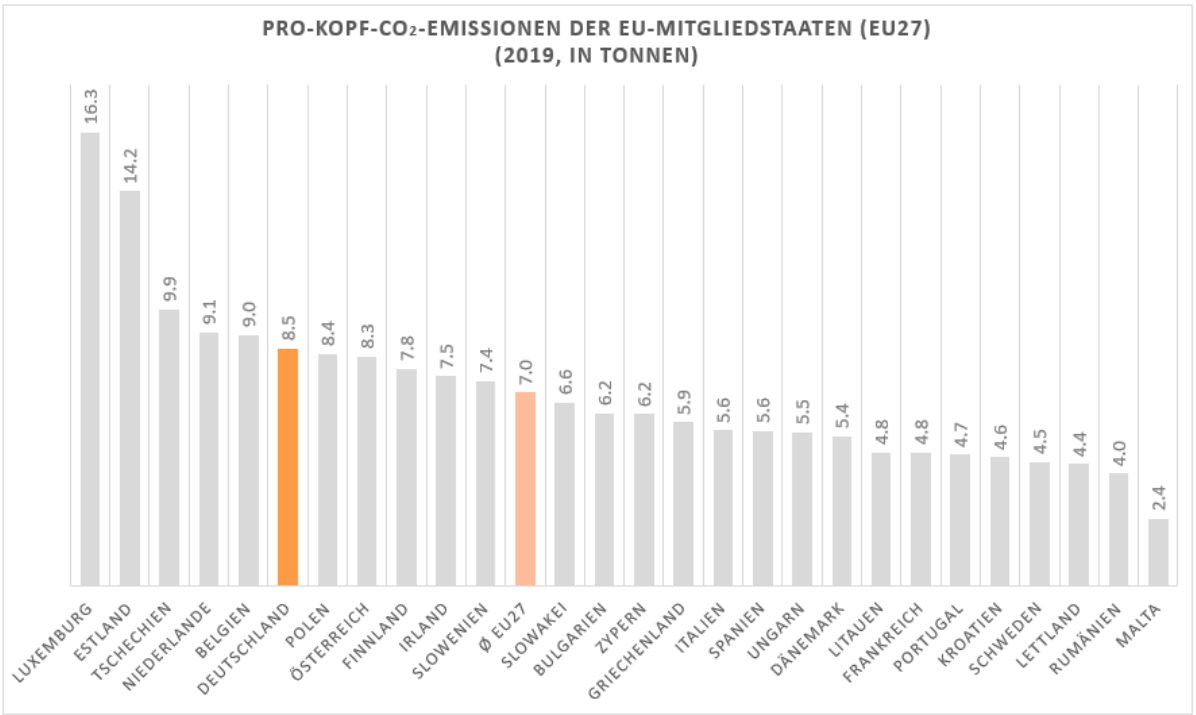
[New page:] Die folgende Grafik fasst die Informationen zusammen:



Comparison treatment Ein Blick auf den Pro-Kopf-CO_2-Ausstoß verschiedener Länder zeigt, dass China im Jahr 2019 8,1 Tonnen CO_2 pro Einwohner verursacht hat. Damit hat *China einen niedrigeren Pro-Kopf-Ausstoß als Deutschland*.



Wenn man den Pro-Kopf-CO_2-Ausstoß in der EU vergleicht, liegt Deutschland mit einem Ausstoß von 8,5 Tonnen CO_2 pro Einwohner auf *Rang 6 und damit über dem EU-Durchschnitt*. Um die Emissionen zu reduzieren, haben aktuell *11 der EU-Mitgliedstaaten* neben dem europäischen auch einen nationalen CO_2-Preis.



A.4.6 Wahrnehmungen

Der letzte Teil der Umfrage kann beginnen! Vielen Dank für das Lesen der Informationen![9] Auf den folgenden Seiten werden wir Ihnen erneut einige Fragen stellen. Dabei bitten wir Sie um Ihre persönliche Einschätzung bzw. Überzeugung. Ihre Meinung ist für uns von großer Bedeutung. Antworten Sie daher bitte so gut wie möglich und nutzen Sie keine dritten Quellen.

32. Wie hoch glauben Sie war der Pro-Kopf-CO_2-Ausstoß im Jahr 2019 in China (in Tonnen)?
    Zusätzliche Information: In Deutschland lag der Pro-Kopf-CO_2-Ausstoß im Jahr 2019 bei 8,5 Tonnen pro Einwohner.
    Bitte tragen Sie Ihre Antwort im Textfeld ein.

33. Was glauben Sie, auf welchem Rang liegt Deutschland in Bezug auf den Pro-Kopf-CO_2-Ausstoß in der EU?
    Zusätzliche Information: Rang 1 entspricht dem höchsten Pro-Kopf-CO_2-Ausstoß in der EU. Die EU hat 27 Mitgliedstaaten.
    Bitte tragen Sie nur eine Zahl als Antwort im Textfeld ein.

34. Was glauben Sie, in wie vielen der EU-Mitgliedstaaten ist aktuell neben dem europäischen CO_2-Preis auch eine nationale Regelung zur Bepreisung von CO_2 in Kraft?
    Bitte tragen Sie Ihre Antwort im Textfeld ein.

35. Welchen Anteil trägt Deutschland Ihrer Meinung nach zur Reduzierung der weltweiten CO_2-Emissionen bei?
    Viel weniger als den gerechten Anteil; LWeniger als den gerechten Anteil; Den gerechten Anteil;Mehr als den gerechten Anteil; Viel mehr als den gerechten Anteil

36. Sind Sie der Meinung, dass Deutschland künftig genauso viel, mehr oder weniger für die Reduzierung von CO_2-Emission unternehmen sollte?
    Viel weniger; Etwas weniger; Genauso viel; Etwas mehr; Viel mehr

37. Wer kommt für die Folgen des CO_2-Austoßes auf, wenn es keinen CO_2-Preis gibt?
    Die Allgemeinheit; Der/die Verursacher/-in; Keiner

38. Wer kommt für die Folgen des CO_2-Austoßes auf, wenn es einen CO_2-Preis gibt?
    Die Allgemeinheit;Der/die Verursacher/-in; Keiner

[9] Dieser Satz wird in der Kontrollgruppe nicht angezeigt.

39. Für wie wahrscheinlich halten Sie es, dass die Einführung des CO_2-Preises in Deutschland Menschen dazu bringt, ...

    - ...weniger Auto zu fahren.
    - ...umweltfreundliche Verkehrsmittel zu wählen (z.B. Rad, öffentliche Verkehrsmittel).
    - ...Energie zu sparen (z.B. Heizung runterdrehen).
    - ...erneuerbare Energien zu nutzen.

    Sehr unwahrscheinlich; Eher unwahrscheinlich; Weder noch,Eher wahrscheinlich; Sehr wahrscheinlich

40. Für wie wahrscheinlich halten Sie es, dass die Einführung des CO_2-Preises in Deutschland Unternehmen dazu bringt, in klimafreundliche Technologien zu investieren?
    Sehr unwahrscheinlich; Eher unwahrscheinlich; Weder noch; Eher wahrscheinlich; Sehr wahrscheinlich

41. Wie sehr glauben Sie, fördert die Einführung des CO_2-Preises in Deutschland Innovationen im Bereich Klimaschutz?
    Überhaupt nicht; Wenig; Mittel; Stark; Sehr stark

42. Welcher Aussage stimmen Sie am meisten zu?
    Bitte wählen Sie diejenige aus, die Ihren Ansichten am nächsten kommt, auch wenn sie nicht perfekt mit Ihren Ansichten übereinstimmt.

    - Die Einführung des CO_2-Preises wird der deutschen Wirtschaft langfristig schaden.
    - Die Einführung des CO_2-Preises hat keinen Effekt auf die deutsche Wirtschaft.
    - Die Einführung des CO_2-Preises wird der deutschen Wirtschaft langfristig helfen.

43. Inwieweit halten Sie den CO_2-Preis in Deutschland für ein geeignetes Mittel, um den Klimawandel zu reduzieren?
    Sehr ungeeignet; Eher ungeeignet; Weder noch; Eher geeignet; Sehr geeignet

44. Wie fair finden Sie es, dass Menschen und Unternehmen, die über ihr Verhalten oder ihre Produktionsweise besonders viel CO_2 verursachen, finanziell stärker durch die Einführung des CO_2-Preises in Deutschland belastet werden?
    Sehr unfair; Eher unfair; Weder noch; Eher fair; Sehr fair

45. Wie stark glauben Sie, werden die folgenden Gruppen durch die Einführung des CO_2-Preises in Deutschland zunächst finanziell belastet?

- Haushalte mit hohem Einkommen
- Haushalte mit mittlerem Einkommen
- Haushalte mit niedrigem Einkommen

Überhaupt nicht; Wenig; Mittel; Stark; Sehr stark

46. Stellen Sie sich zwei Familien vor. Familie „A“ hat ein jährliches Einkommen von 100.000 EUR. Familie „B“ hat ein jährliches Einkommen von 35.000 EUR.

    Welcher Aussage stimmen Sie am meisten zu?
    Bitte wählen Sie diejenige aus, die Ihren Ansichten am nächsten kommt, auch wenn sie nicht perfekt mit Ihren Ansichten übereinstimmt.
    Familie "A" bringt einen größeren Anteil ihres Einkommens z.B. für Kraftstoffe und Heizung und damit für den CO_2-Preis auf, als Familie "B2"; Familie "A" bringt einen kleineren Anteil ihres Einkommens z.B. für Kraftstoffe und Heizung und damit für den CO_2-Preis auf, als Familie "B2"

47. Wie sehr glauben Sie, wird bei der Einführung des CO_2-Preises in Deutschland auf eine sozial ausgeglichene finanzielle Belastung geachtet?
    Überhaupt nicht; Wenig; Mittel; Stark; Sehr stark

48. Wie fair finden Sie es, dass Haushalte mit einem niedrigen Einkommen den gleichen Preis für eine Tonne CO_2 zahlen wie Haushalte mit einem hohen Einkommen?
    Sehr unfair; Eher unfair; Weder noch; Eher fair; Sehr fair

A.4.7 Politische Ansichten

49. Wie fair finden Sie die Einführung des CO_2-Preis in Deutschland im Großen und Ganzen?
    Sehr unfair; Eher unfair; Weder noch; Eher fair; Sehr fair

50. Unterstützen Sie die Einführung des CO_2-Preises in Deutschland im Jahr 2021?
    Unterstütze ich überhaupt nicht; Unterstütze ich nicht; Unterstütze ich eher nicht; Weder noch; Unterstütze ich eher; Unterstütze ich; Unterstütze ich voll und ganz

A.4.8 Verhaltensmaße

Mit der Teilnahme an dieser Umfrage, nehmen Sie automatisch an einer Lotterie teil, bei der Sie zusätzlich 1.000 mingle-Punkte gewinnen können. Drei Teilnehmerinnen und Teilnehmer werden nach Beendigung der Umfrage ausgelost und bekommen diesen Betrag auf ihr Konto gutgeschrieben. Im Folgenden können Sie einen Teil des Lotterie-Gewinnes für die Reduzierung von CO_2 spenden. Dieser Betrag wird nur gespendet, wenn Sie die

Lotterie tatsächlich gewinnen. Sie erhalten dann auch ein Zertifikat über Ihre Spende. Der Rest des Gewinnes wird auf Ihr Konto gutgeschrieben.

51. Falls Sie in der Lotterie gewinnen, wie viele der 1.000 mingle-Punkte spenden Sie für eine CO_2-Kompensation?
    Bitte geben Sie einen Wert zwischen 0 und 1.000 an.

Bitte wählen Sie bei der folgenden Frage die Antwort aus, von der Sie glauben, dass sie die meisten anderen Teilnehmerinnen und Teilnehmer der Umfrage geben.Wenn Ihre Antwort tatsächlich mit der Antwort der meisten anderen Teilnehmerinnen und Teilnehmer übereinstimmt, erhalten Sie zusätzlich 50 mingle-Punkte auf Ihr Konto gutgeschrieben.

52. Inwieweit wird die Einführung des CO_2-Preises in Deutschland von der Bevölkerung unterstützt?
    Bitte wählen Sie aus, was aus Ihrer Sicht die meisten anderen Teilnehmerinnen und Teilnehmer der Umfrage auf diese Frage antworten.
    Wird überhaupt nicht unterstützt;Wird nicht unterstützt Wird eher nicht unterstützt; Weder noch; Wird eher unterstützt; Wird unterstützt; Wird voll und ganz unterstützt

A.4.9 Selbsteinschätzungsfragen und Feedback

53. Inwieweit haben Sie sich bereits vor dem heutigen Tag mit der Einführung des CO_2-Preises in Deutschland beschäftigt?
    Überhaupt nicht; Wenig; Mittel; Viel; Sehr viel

54. Wie sicher haben Sie sich bei der Beantwortung der Fragen zum CO_2-Preis gefühlt?
    Sehr unsicher; Eher unsicher; Weder noch; Eher sicher; Sehr sicher

55. TREATMENT GRUPPEN Im Verlauf der Umfrage wurden Ihnen Informationen zum Thema CO_2-Preis gegeben. Wie vertrauenswürdig stufen Sie diese Informationen ein?
    Überhaupt nicht vertrauenswürdig; Eher nicht vertrauenswürdig; Weder noch;Eher vertrauenswürdig; Sehr vertrauenswürdig

56. Möchten Sie eine Zusammenfassung relevanter Informationen zum CO_2-Preis erhalten?

    Die Informationen werden Ihnen im Anschluss an die Umfrage zur Verfügung gestellt. Diese können Sie dann auch mit Ihrer Familie, Freundinnen und Freunden und Bekannten teilen.
    Ja; Nein

57. Wie viel Mühe haben Sie sich bei der Beantwortung der Fragen gegeben?
Überhaupt keine;Wenig; Mittel; Viel; Sehr viel

58. Gibt es etwas, was Sie uns am Ende dieser Umfrage noch mitteilen möchten?