Fighting Climate Change: International Attitudes toward Climate Policies

Antoine Dechezleprêtre, Adrien Fabre, Tobias Kruse, Bluebery Planterose, Ana Sanchez Chico, and Stefanie Stantcheva

SOCIAL ECONOMICS LAB

Motivation: Understanding international attitudes toward climate change and climate policies

Climate change is an urgent issue with lots of political economy constraints

- Need to drastically reduce global emissions by 2050
- Climate neutrality targets announced by 140+ countries (90% of global GHG emissions)
- Given current policies, expect average temperature rise of about 2.7°C by 2100

What drives support for/opposition to climate policies across the world?

- Lack of concern or knowledge?
- Effects on own budget and lifestyle?
- Broader concerns about the impact on others and the economy?
- Struggle to assess how a given policy affects climate change?

Address these questions using **social economics surveys and experiments.**

Social Economics Surveys and Experiments

Surveys have been used for a long time for measurement & statistics, replaced by high-quality admin data.

Yet, **some things remain invisible** in data other than survey data (even great data!): **perceptions, attitudes and beliefs, knowledge, and reasoning.**

Revealed preference approach – our holy grail – can be challenging due to lack of data and identifying variation.

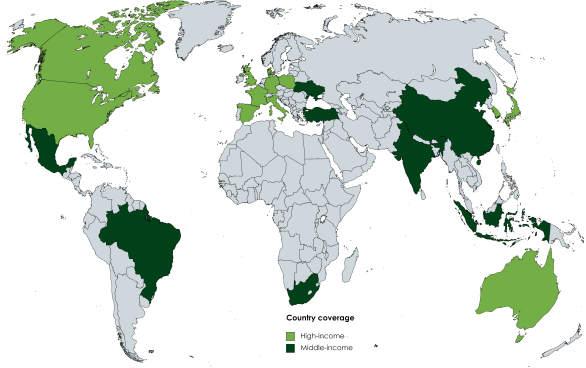
Surveys are more than a measurement tool. Control of data generating process. **"Creating your own identifying variation and uncovering the invisible."**

For the results to be reliable, it is critical that these surveys are well-designed, carefully calibrated, and deployed on appropriate samples.

An international survey in 20 countries

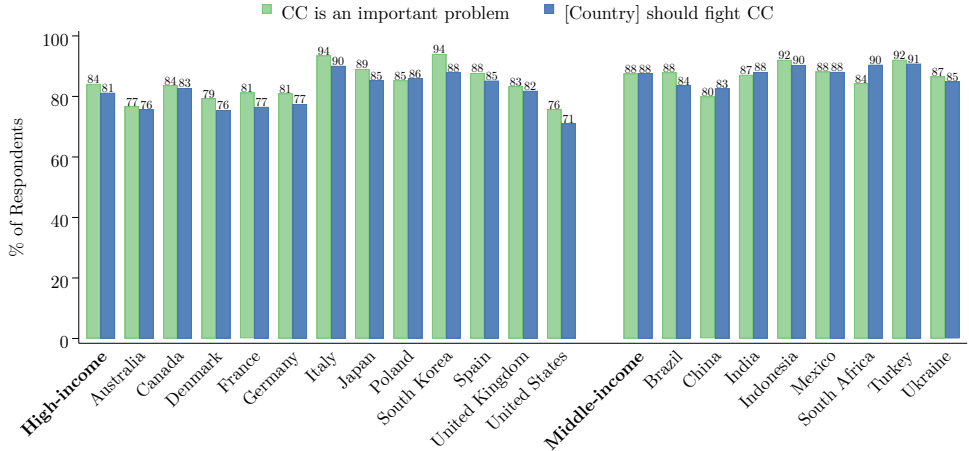
Large-scale, cross-country survey with +40,000 respondents in 20 middle- and high-income countries.

72% of global CO_2 emissions, 18/21 largest emitters.[1]



[1] The three missing countries are Russia, Iran, and Saudi Arabia.

Share of respondents who agree (somewhat to strongly) that "Climate change is an important problem" or their country "should take measures to fight climate change"



Outline

1. The Survey
2. Knowledge about climate change
3. Which factors shape support for climate policies?
4. Support for climate action across and within countries
5. Experimental Effects

Sample

Sampling: Respondents are quota-sampled through commercial survey companies in 2021.

Broad pools of respondents, variety of recruiting channels and rewards.

Target dimensions: gender, age, income quartile, region, and urban vs. rural[1]

Representativity: High-income countries samples are broadly nationally representative; middle-income countries are "online" representative.

Skews younger, richer, more educated, and more urban ▸ Summary statistics

Comparison to other high-quality surveys (e.g., whether CC is an important problem in Pew (2015); whether CC will harm you (Pew 2015, 2021).

[1] also: ethnicity/race in the U.S., and education in France

Questionnaire

Background of respondent
Socio-economic characteristics, political views, energy use, consumption habits

Video information treatment

Control group	Climate impacts	Climate policies	Both treatments
No video information provided	Local impacts of climate change	• Ban on combustion-engine cars • Carbon tax w/ cash transfers • Green infrastructure program	Climate impacts + climate policies

Knowledge and understanding of climate change
- Climate change is real, anthropogenic, climate dynamics
- Factors causing climate change: gases, activities
- Impacts of climate change, prospects for the future

Views on climate policies
- **Three main policies**: ban on combustion-engine cars, green infrastructure program, carbon tax with cash transfers:
  - Policies' effectiveness: will the policies reduce emissions/pollution?
  - Distributional impacts: which groups will win or lose?
  - Self-interest concerns: will your household win or lose?
  - Perceived fairness
  - Support for policy (and variations of it)
- **Support for a range of other climate policies:** carbon taxes, emission standards, subsidies, mandatory insulation of buildings, policies to reduce beef consumption, global policies
- **Real-stake questions**: willingness to donate to reforestation cause, willingness to sign a petition for climate action

Data and Response Quality

Avoiding selection: Recruit respondents without revealing topic or our identity. Test for attrition.

Careless responses: timer on each page; attention check questions; flag suspicious answer patterns.

Self-reported views vs. political behaviors: real stakes donation and petition question (correlated with answers). ▸ Responses and Actual Behaviors

Feedback post-survey: 15% thought was left-wing biased; 11% right-wing.

Outline

1. The Survey
2. **Knowledge about climate change**
3. Which factors shape support for climate policies?
4. Support for climate action across and within countries
5. Experimental Effects

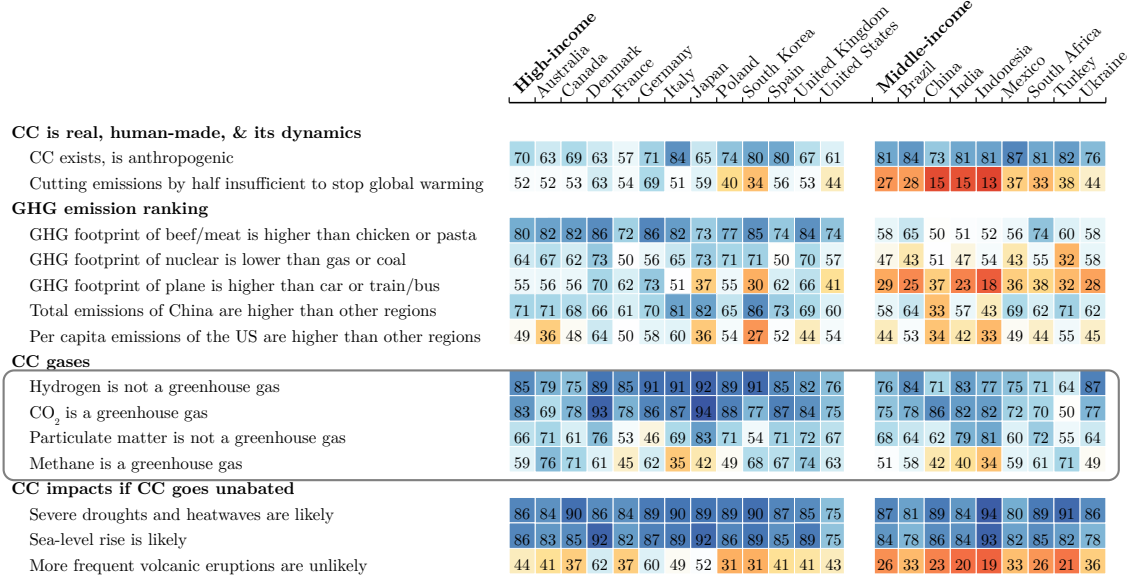
Knowledge about climate change across countries: % correct

	High-income												**Middle-income**								
	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																				
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																				
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																				
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																				
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

Most believe climate change is real and anthropogenic

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

Most people are aware of the factors that cause climate change



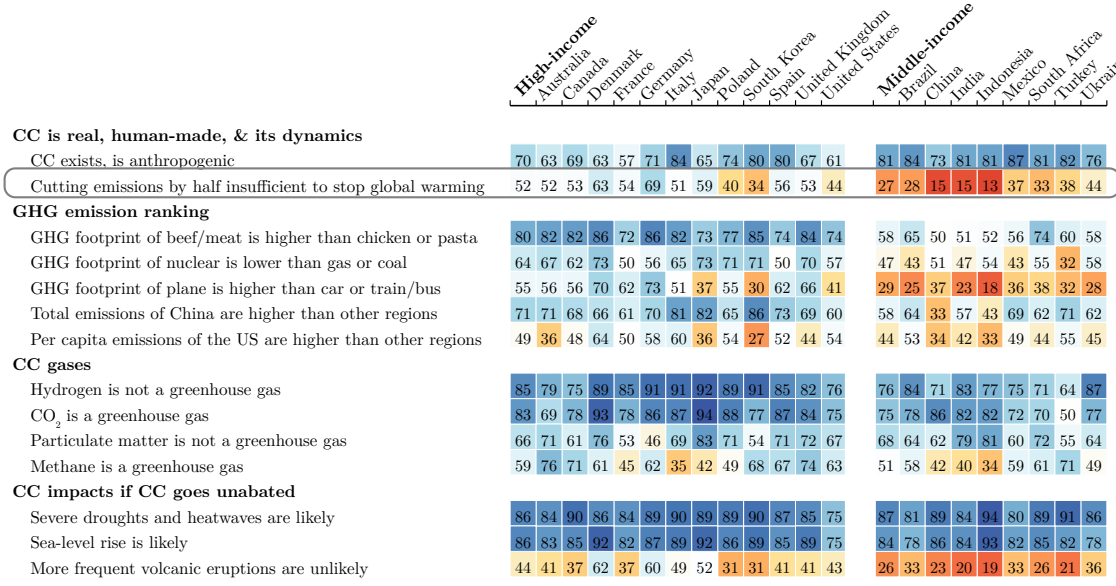
People correctly foresee many consequences of climate change ..

	High-income												**Middle-income**								
	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																				
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

.. but also expect some unlikely disastrous consequences.

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

People are too optimistic about level of decarbonization needed



Outline

1. The Survey
2. Knowledge about climate change
3. **Which factors shape support for climate policies?**
4. Support for climate action across and within countries
5. Experimental Effects

Measuring support for climate action

Challenge: a given policy may have different levels of support based on **the bundle** it is part of.

Spending/investment: Sources of funding matter.

Tax tools: how revenues are spent.

Regulations: modalities matter (e.g., bans on polluting cars overall or in dense areas?)

Our strategy:

1) **Provide evidence in-depth evidence for three main types of policies**

   Tax (carbon tax with equal transfers), Investment (debt-financed green infrastructure program), Regulation (Ban on combustion engine cars).

   Analyze **fundamental factors shaping support** for policies (can use to predict future support).

2) **Test variations** on possible uses of revenue, revenue sources, or policy bundles.

Perceived characteristics of the main policies

	Green Infrastructure Program		Carbon Tax w. Cash Transfers		Ban on Combustion-Engine Cars	
	High Income	Middle Income	High Income	Middle Income	High Income	Middle Income
Effectiveness of Main Climate Policies						
Reduce air pollution	76	82	68	77	79	83
Reduce GHG emissions/Reduce CO_2 emissions from cars			64	71	73	77
Make electricity production greener	70	77				
Encourage insulation of buildings			64	67		
Increase the use of public transport/Encourage less driving	60	67	51	64		
Positive effect on economy and employment	37	45	31	41	35	39
Costless way to fight climate change	30	38	27	34	39	37
Distributional Impacts of Main Climate Policies						
Believes the following groups would gain						
Those living in rural areas	25	41	21	32	16	24
Low-income earners	21	40	22	31	12	24
The middle class	22	43	21	31	15	26
High-income earners	39	50	33	37	40	47
Self-Interest						
Believes own household would gain	23	40	20	28	15	24
Perceived Fairness and Support						
Support main climate policies	57	76	37	50	43	60
Main climate policies are fair	51	67	35	47	39	53

People acknowledge the environmental benefits of policies...

	Green Infrastructure Program		Carbon Tax w. Cash Transfers		Ban on Combustion-Engine Cars	
	High Income	Middle Income	High Income	Middle Income	High Income	Middle Income
Effectiveness of Main Climate Policies						
Reduce air pollution	76	82	68	77	79	83
Reduce GHG emissions/Reduce CO_2 emissions from cars			64	71	73	77
Make electricity production greener	70	77				
Encourage insulation of buildings			64	67		
Increase the use of public transport/Encourage less driving	60	67	51	64		
Positive effect on economy and employment	37	45	31	41	35	39
Costless way to fight climate change	30	38	27	34	39	37
Distributional Impacts of Main Climate Policies						
Believes the following groups would gain						
Those living in rural areas	25	41	21	32	16	24
Low-income earners	21	40	22	31	12	24
The middle class	22	43	21	31	15	26
High-income earners	39	50	33	37	40	47
Self-Interest						
Believes own household would gain	23	40	20	28	15	24
Perceived Fairness and Support						
Support main climate policies	57	76	37	50	43	60
Main climate policies are fair	51	67	35	47	39	53

... and also believe these come at economic costs

	Green Infrastructure Program		Carbon Tax w. Cash Transfers		Ban on Combustion-Engine Cars	
	High Income	Middle Income	High Income	Middle Income	High Income	Middle Income
Effectiveness of Main Climate Policies						
Reduce air pollution	76	82	68	77	79	83
Reduce GHG emissions/Reduce CO_2 emissions from cars			64	71	73	77
Make electricity production greener	70	77				
Encourage insulation of buildings			64	67		
Increase the use of public transport/Encourage less driving	60	67	51	64		
Positive effect on economy and employment	37	45	31	41	35	39
Costless way to fight climate change	30	38	27	34	39	37
Distributional Impacts of Main Climate Policies						
Believes the following groups would gain						
Those living in rural areas	25	41	21	32	16	24
Low-income earners	21	40	22	31	12	24
The middle class	22	43	21	31	15	26
High-income earners	39	50	33	37	40	47
Self-Interest						
Believes own household would gain	23	40	20	28	15	24
Perceived Fairness and Support						
Support main climate policies	57	76	37	50	43	60
Main climate policies are fair	51	67	35	47	39	53

Three main policies often considered regressive

	Green Infrastructure Program		Carbon Tax w. Cash Transfers		Ban on Combustion-Engine Cars	
	High Income	Middle Income	High Income	Middle Income	High Income	Middle Income
Effectiveness of Main Climate Policies						
Reduce air pollution	76	82	68	77	79	83
Reduce GHG emissions/Reduce CO_2 emissions from cars			64	71	73	77
Make electricity production greener	70	77				
Encourage insulation of buildings			64	67		
Increase the use of public transport/Encourage less driving	60	67	51	64		
Positive effect on economy and employment	37	45	31	41	35	39
Costless way to fight climate change	30	38	27	34	39	37
Distributional Impacts of Main Climate Policies						
Believes the following groups would gain						
Those living in rural areas	25	41	21	32	16	24
Low-income earners	21	40	22	31	12	24
The middle class	22	43	21	31	15	26
High-income earners	39	50	33	37	40	47
Self-Interest						
Believes own household would gain	23	40	20	28	15	24
Perceived Fairness and Support						
Support main climate policies	57	76	37	50	43	60
Main climate policies are fair	51	67	35	47	39	53

People are generally pessimistic about impact on own household

	Green Infrastructure Program		Carbon Tax w. Cash Transfers		Ban on Combustion-Engine Cars	
	High Income	Middle Income	High Income	Middle Income	High Income	Middle Income
Effectiveness of Main Climate Policies						
Reduce air pollution	76	82	68	77	79	83
Reduce GHG emissions/Reduce CO_2 emissions from cars			64	71	73	77
Make electricity production greener	70	77				
Encourage insulation of buildings			64	67		
Increase the use of public transport/Encourage less driving	60	67	51	64		
Positive effect on economy and employment	37	45	31	41	35	39
Costless way to fight climate change	30	38	27	34	39	37
Distributional Impacts of Main Climate Policies						
Believes the following groups would gain						
Those living in rural areas	25	41	21	32	16	24
Low-income earners	21	40	22	31	12	24
The middle class	22	43	21	31	15	26
High-income earners	39	50	33	37	40	47
Self-Interest						
Believes own household would gain	23	40	20	28	15	24
Perceived Fairness and Support						
Support main climate policies	57	76	37	50	43	60
Main climate policies are fair	51	67	35	47	39	53

What explains support for climate action?

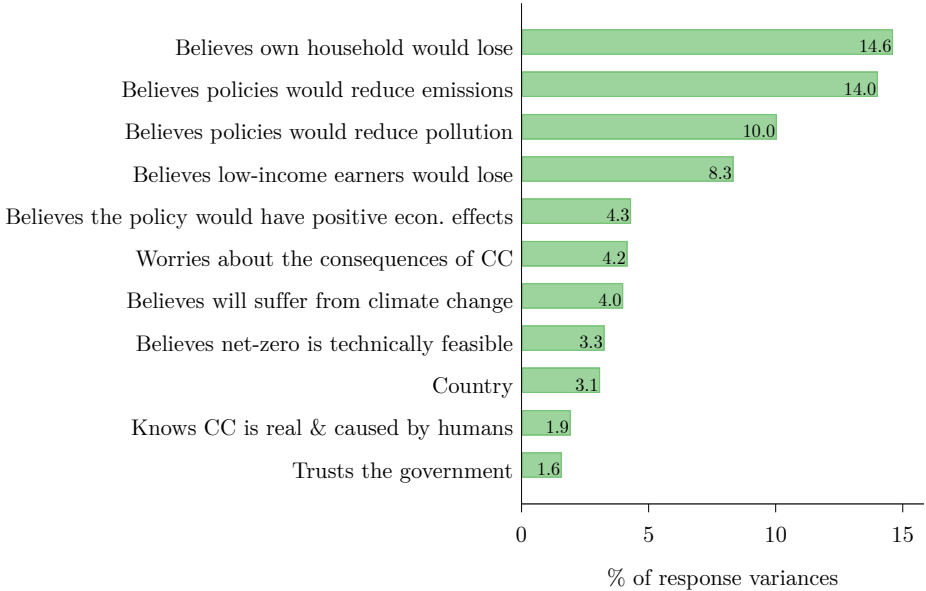
1. **Self-interest:** the policy will not financially hurt my household. ▸ Regression results

2. **Effectiveness belief:** the policy is helpful in reducing emissions.

3. **Equity concern:** the policy will not disproportionately hurt lower-income or vulnerable households.

Not very predictive: Knowledge about climate change or concerns about climate change. ▸ Details

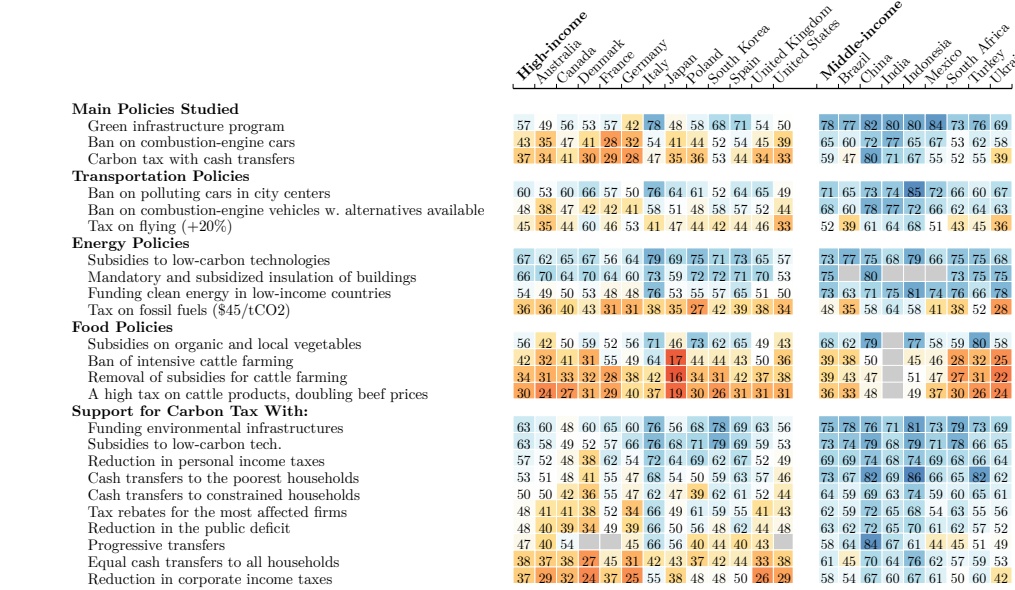
Share of the variation in support explained by different beliefs



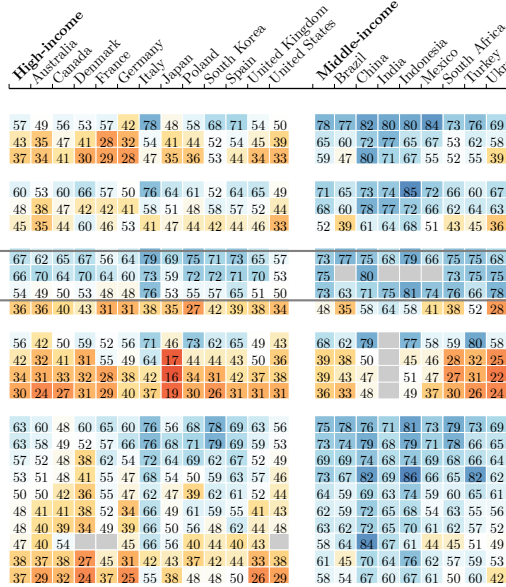
Outline

1. The Survey
2. Knowledge about climate change
3. Which factors shape support for climate policies?
4. **Support for climate action across and within countries**
5. Experimental Effects

Share of respondents who support climate change policies



High support for subsidies for low-carbon tech & infrastructure

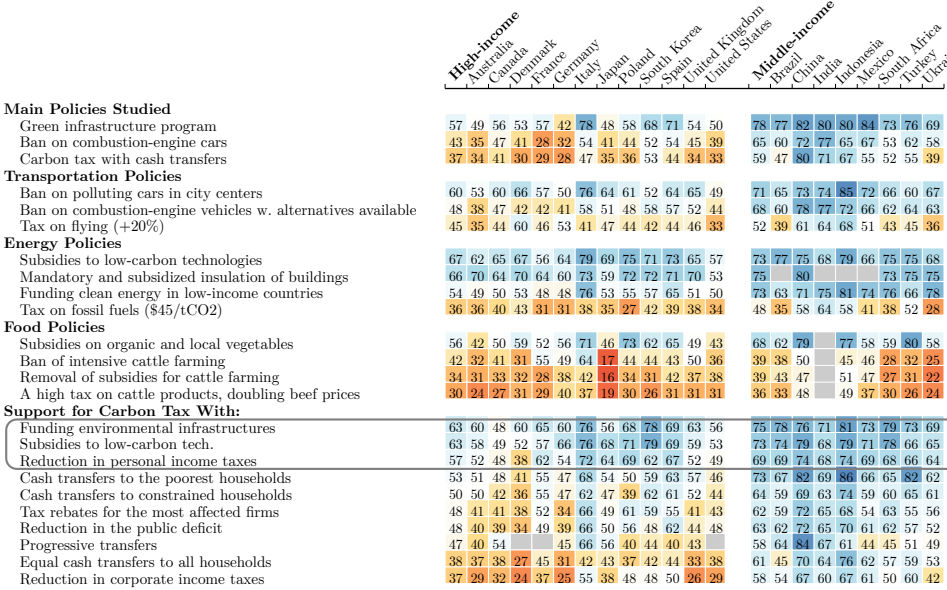


▸ Funding for infrastructures

Carbon taxes appear to be least popular at first glance...

	High-income											Middle-income								
	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
Main Policies Studied																				
Green infrastructure program	57	49	56	53	57	42	78	48	58	68	71	54	50	78	77	82	80	80	84	73	76	69
Ban on combustion-engine cars	43	35	47	41	28	32	54	41	44	52	54	45	39	65	60	72	77	65	67	53	62	58
Carbon tax with cash transfers	37	34	41	30	29	28	47	35	36	53	44	34	33	59	47	80	71	67	55	52	55	39
Transportation Policies																				
Ban on polluting cars in city centers	60	53	60	66	57	50	76	64	61	52	64	65	49	71	65	73	74	85	72	66	60	67
Ban on combustion-engine vehicles w. alternatives available	48	38	47	42	42	41	58	51	48	58	57	52	44	68	60	78	77	72	66	62	64	63
Tax on flying (+20%)	45	35	44	60	46	53	41	47	44	42	44	46	33	52	39	61	64	68	51	43	45	36
Energy Policies																				
Subsidies to low-carbon technologies	67	62	65	67	56	64	79	69	75	71	73	65	57	73	77	75	68	79	66	75	75	68
Mandatory and subsidized insulation of buildings	66	70	64	70	64	60	73	59	72	72	71	70	53	75		80				73	75	75
Funding clean energy in low-income countries	54	49	50	53	48	48	76	53	55	57	65	51	50	73	63	71	75	81	74	76	66	78
Tax on fossil fuels ($45/tCO2)	36	36	40	43	31	31	38	35	27	42	39	38	34	48	35	58	64	58	41	38	52	28
Food Policies																				
Subsidies on organic and local vegetables	56	42	50	59	52	56	71	46	73	62	65	49	43	68	62	79		77	58	59	80	58
Ban of intensive cattle farming	42	32	41	31	55	49	64	17	44	44	43	50	36	39	38	50		45	46	28	32	25
Removal of subsidies for cattle farming	34	31	33	32	28	38	42	16	34	31	42	37	38	39	43	47		51	47	27	31	22
A high tax on cattle products, doubling beef prices	30	24	27	31	29	40	37	19	30	26	31	31	31	36	33	48		49	37	30	26	24
Support for Carbon Tax With:																				
Funding environmental infrastructures	63	60	48	60	65	60	76	56	68	78	69	63	56	75	78	76	71	81	73	79	73	69
Subsidies to low-carbon tech.	63	58	49	52	57	66	76	68	71	79	69	59	53	73	74	79	68	79	71	78	66	65
Reduction in personal income taxes	57	52	48	38	62	54	72	64	69	62	67	52	49	69	69	74	68	74	69	68	66	64
Cash transfers to the poorest households	53	51	48	41	55	47	68	54	50	59	63	57	46	73	67	82	69	86	66	65	82	62
Cash transfers to constrained households	50	50	42	36	55	47	62	47	39	62	61	52	44	64	59	69	63	74	59	60	65	61
Tax rebates for the most affected firms	48	41	41	38	52	34	66	49	61	59	55	41	43	62	59	72	65	68	54	63	55	56
Reduction in the public deficit	48	40	39	34	49	39	66	50	56	48	62	44	48	63	62	72	65	70	61	62	57	52
Progressive transfers	47	40	54			45	66	56	40	44	40	43		58	64	84	67	61	44	45	51	49
Equal cash transfers to all households	38	37	38	27	45	31	42	43	37	42	44	33	38	61	45	70	64	76	62	57	59	53
Reduction in corporate income taxes	37	29	32	24	37	25	55	38	48	48	50	26	29	58	54	67	60	67	61	50	60	42

... but use of revenue matters substantially for their support



Who supports more climate action?

Those whose **lifestyle** allows them to bear the costs and adapt ("Self-interest"):

i) have access to high-quality public transportation; ii) rely less on a car; iii) have lower gas expenses.

Left-leaning respondents (in all countries).

Those with higher levels of **education**, particularly college degree (even conditional on income).

Income mostly insignificant.

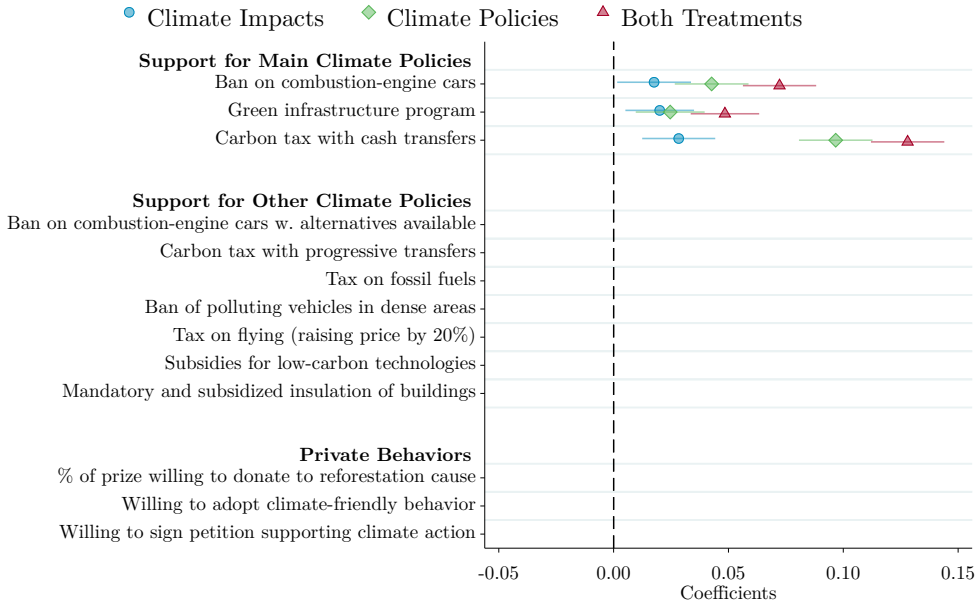
Age has mixed effects: younger people support more climate action only in FR, AU, and US.

Policy views cannot be explained based on socioeconomic characteristics alone ($R^2 = 0.09$ without country FE; $R^2 = 0.18$ with them).

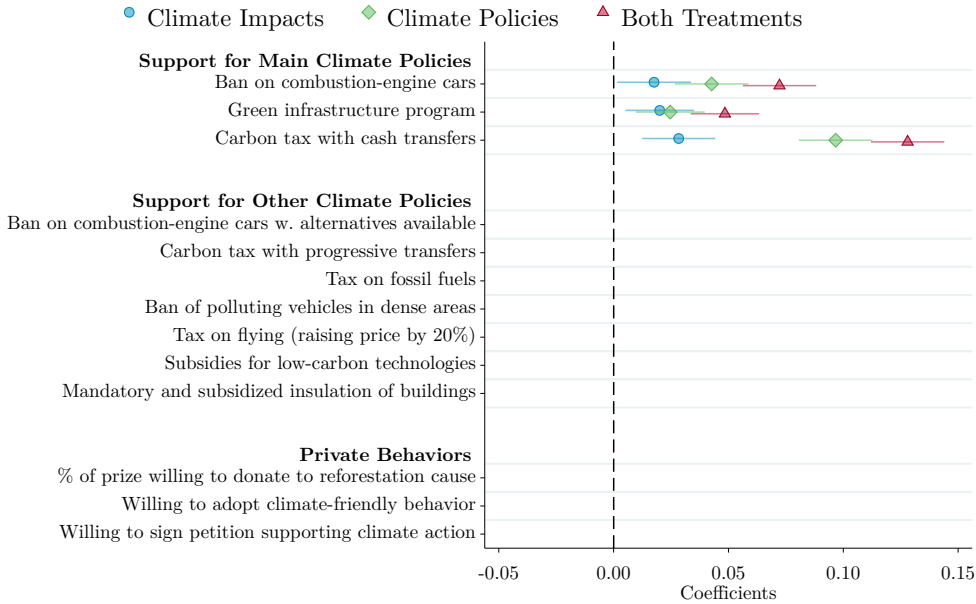
Outline

1. The Survey
2. Knowledge about climate change
3. Which factors shape support for climate policies?
4. Support for climate action across and within countries
5. **Experimental Effects**

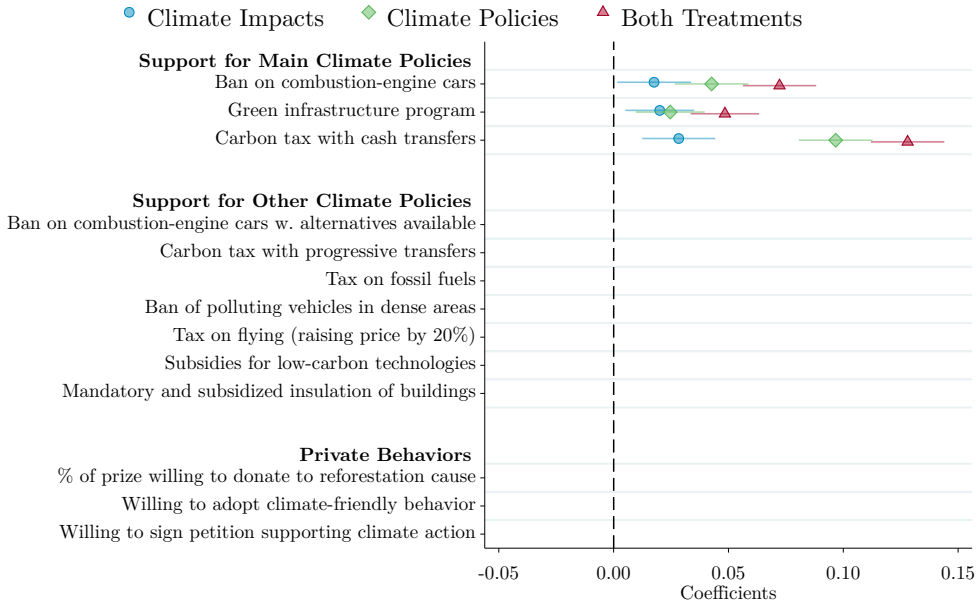
Effects of the treatments on support for climate action



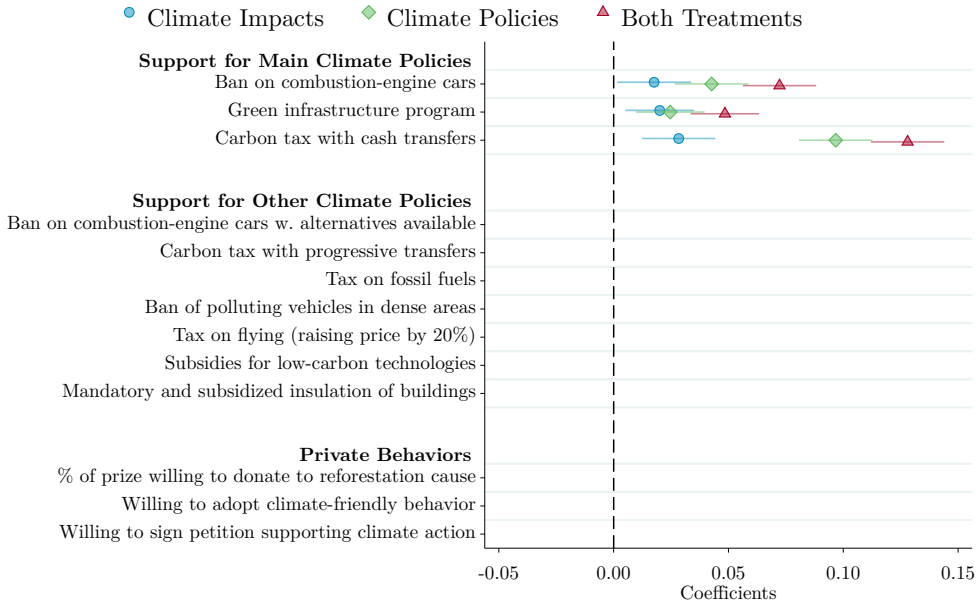
Climate impacts treatment has smallest effects on support



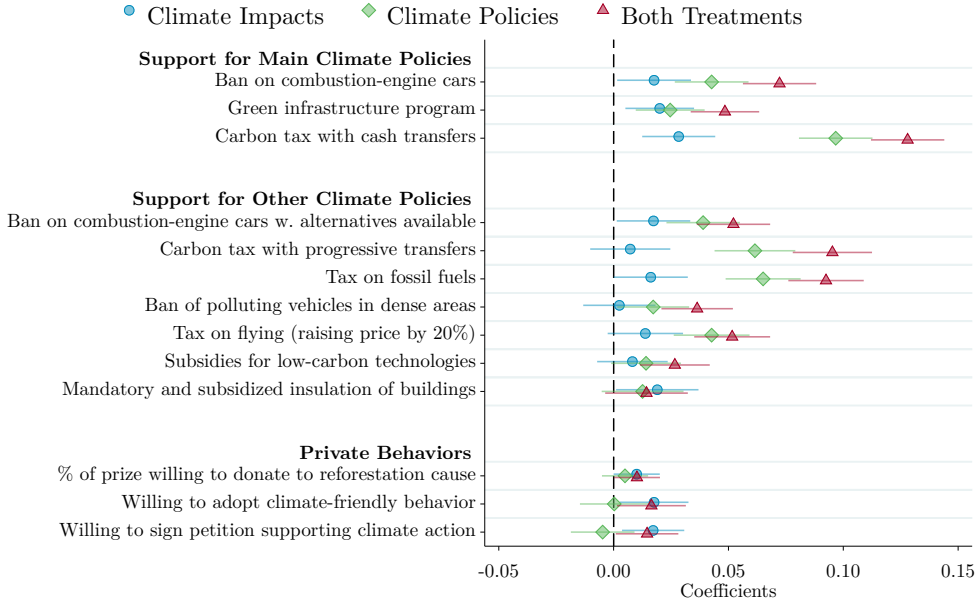
Climate Policies treatment has larger effects



Combined treatment has strongest effects



Similar effects on closely related policies



Interpretation of the treatment effects

Climate impact treatment increases concern about and understanding of climate change

> However, these concerns and knowledge are not strong predictors of support, and the treatment does not shift key mechanisms that matter for policy support (perceived effectiveness, distributional impacts, and impacts on one's household)

Climate policies and combined treatment shift exactly the beliefs that are most predictive of policy support: perceived impacts on oneself and others and the effectiveness of policies.

> Also has an effect on to related policies.

$\Rightarrow$ **Explaining how each policy works and who benefits (or how losers can be compensated)** is critical to fostering policy support. Simply making people more concerned is not effective.

Conclusion

Large majority understands CC is real & human caused, but disagreement about how to fight it

Socioeconomic and lifestyle factors, esp. education, political orientation, and availability of public transport are sig. correlated with views and beliefs, but it is difficult to predict beliefs or policy views based on these characteristics alone

Support for a given climate policy depends on three fundamental beliefs:

1. **Effectiveness** belief: policy reduces emissions (scope for information)
2. **Equity** concern: policy will not disproportionately hurt lower-income or vulnerable HHs (progressivity of policies & understanding of it is key)
3. **Self-interest:** policy will not financially hurt my household (provide alternatives & means to substitute)

Concern or knowledge about climate change does not predict policy support well.

Need to explain policies' effectiveness & distributional impacts, not just CC impacts

THANK YOU!

SOCIAL
ECONOMICS
LAB

https://socialeconomicslab.org

Appendix slides

Private action vs. public policy

Indices of "*Willingness to change behaviors*" and "*Support for climate policies*" positively but not perfectly (0.6) $\Rightarrow$ discrepancy between private behavior and support of public policies

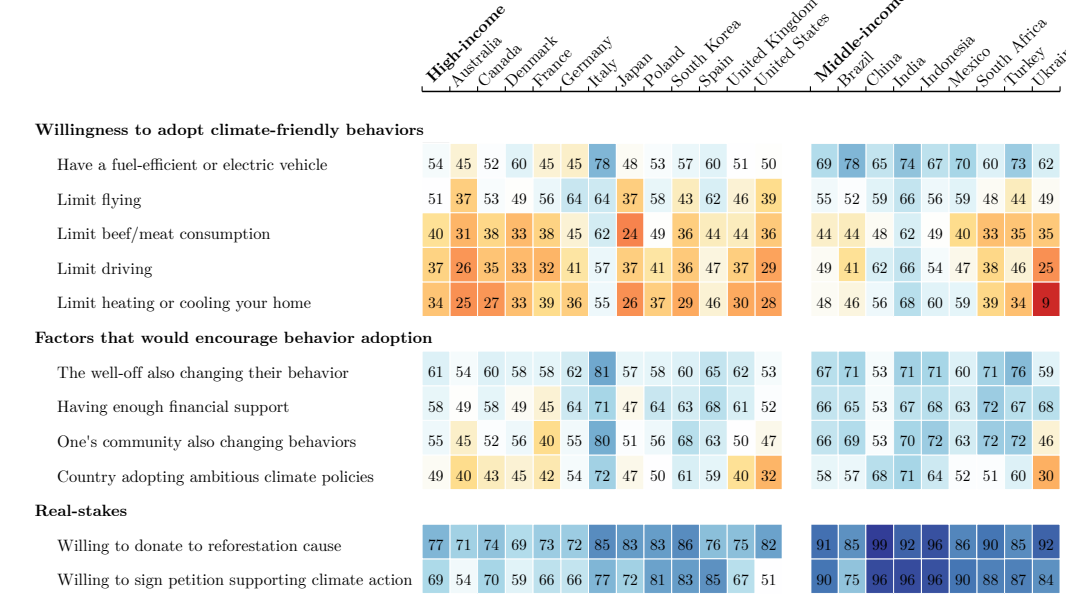
Under current incentives:

- about half willing to buy fuel-efficient or electric car or to limit flying
- except in Italy and India, generally unwilling to limit beef/meat consumption
- few willing to limit driving or cooling/heating their homes by much

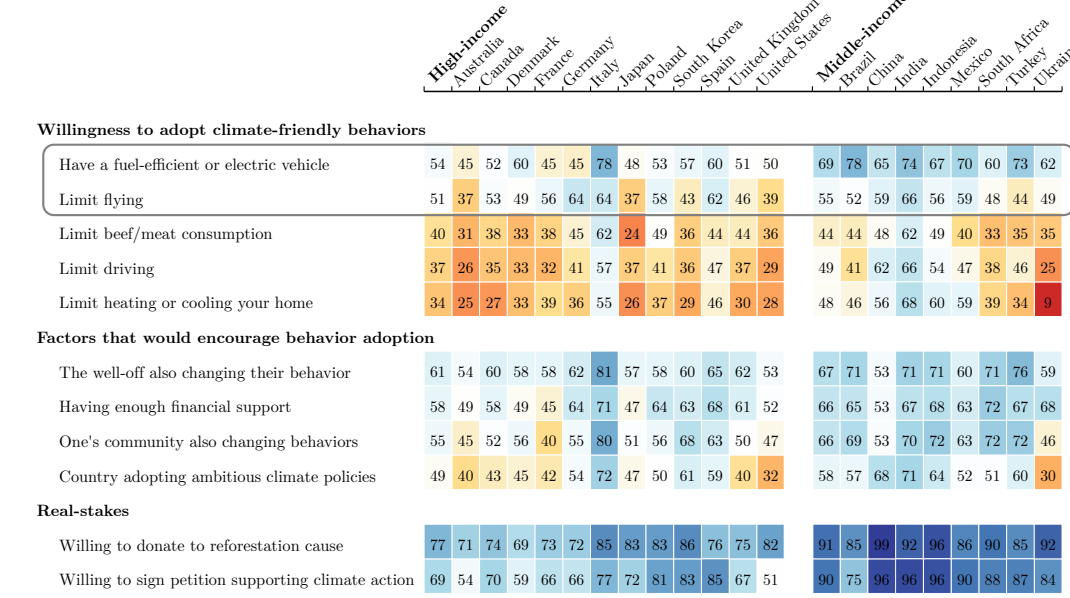
Under different circumstances:

- willing to change behavior if they receive enough financial support
- willing to change behavior if others, especially rich, also change behavior

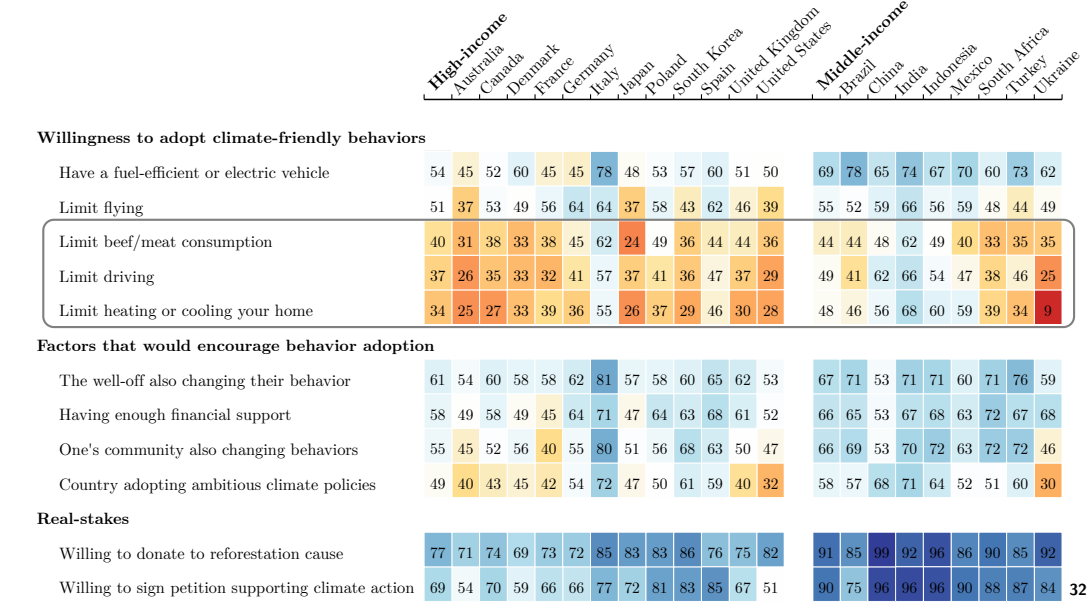
Share of people willing to adopt climate-friendly behaviors



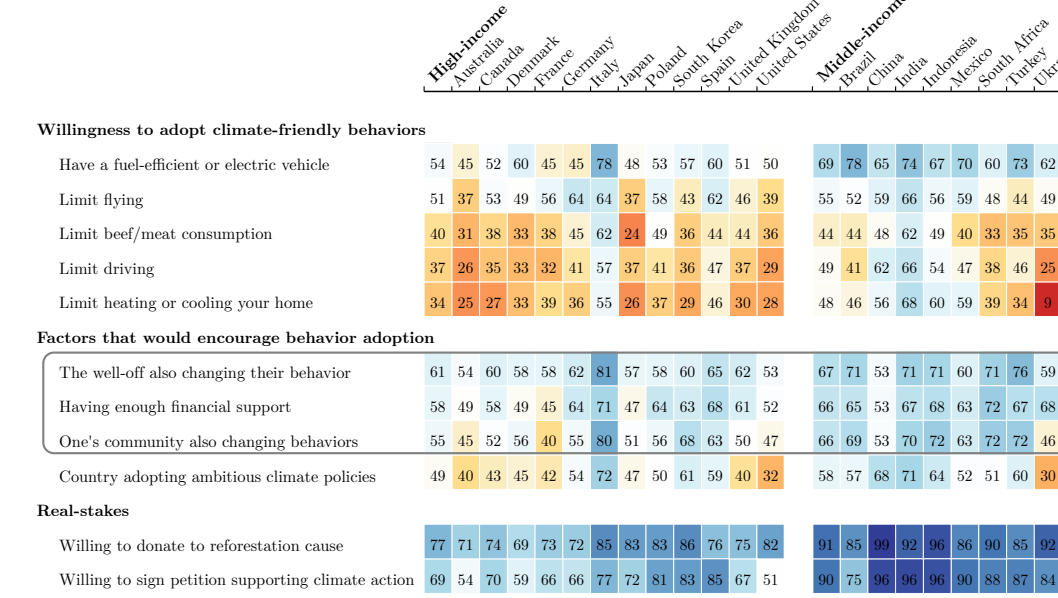
Around half are willing to buy fuel-efficient car or to limit flying



People are unwilling to limit some behaviors



Willing to change behavior with financial support and if others do



Summary Statistics – High-income countries 1

Back

	Australia		Canada		Denmark		France	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample
Sample size	NA	1,978	NA	2,022	NA	2,013	NA	2,006
Man	0.49	0.56	0.49	0.45	0.50	0.50	0.48	0.44
18-24 years old	0.11	0.10	0.10	0.09	0.11	0.09	0.12	0.10
25-34 years old	0.19	0.19	0.17	0.14	0.16	0.12	0.15	0.15
35-49 years old	0.26	0.27	0.24	0.25	0.23	0.25	0.24	0.25
More than 50 years old	0.44	0.44	0.48	0.52	0.50	0.54	0.49	0.50
Income Q1	0.25	0.45	0.25	0.25	0.26	0.29	0.25	0.31
Income Q2	0.25	0.31	0.25	0.28	0.23	0.25	0.25	0.31
Income Q3	0.25	0.17	0.25	0.28	0.28	0.26	0.25	0.23
Income Q4	0.25	0.07	0.25	0.20	0.22	0.19	0.25	0.14
Region 1	0.33	0.30	0.07	0.06	0.32	0.30	0.19	0.19
Region 2	0.20	0.23	0.06	0.07	0.23	0.23	0.22	0.24
Region 3	0.07	0.10	0.26	0.23	0.10	0.10	0.20	0.22
Region 4	0.28	0.28	0.39	0.39	0.14	0.16	0.25	0.20
Region 5	0.11	0.09	0.23	0.24	0.21	0.21	NA	NA
Urban	0.72	0.76	0.83	0.89	0.53	0.53	0.60	0.59
College education (25-64)	0.49	0.46	0.60	0.56	0.36	0.44	0.40	0.42
Share of voters	0.72	0.86	0.56	0.83	0.76	0.89	0.70	0.78
Voters: Left	0.44	0.44	0.60	0.65	0.44	0.48	0.28	0.24
Voters: Center	NA	NA	NA	NA	0.09	0.06	0.24	0.12
Voters: Right	0.41	0.41	0.39	0.30	0.43	0.37	0.47	0.53
Voters: Other	0.15	0.08	0.01	0.00	0.04	0.03	0.01	0.02
Voters: Not reported	NA	0.06	NA	0.05	NA	0.06	NA	0.08
Inactivity rate (15-64)	0.22	0.22	0.23	0.29	0.21	0.28	0.29	0.25
Unemployment rate (15-64)	0.07	0.12	0.10	0.12	0.06	0.12	0.08	0.10
Employment rate (15-64)	0.73	0.69	0.70	0.63	0.74	0.63	0.65	0.67

Summary Statistics – High-income countries 2

Back

	Germany		Italy		Japan		Poland	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample
Sample size	NA	2,006	NA	2,088	NA	1,990	NA	2,053
Man	0.49	0.48	0.48	0.49	0.48	0.54	0.48	0.44
18-24 years old	0.09	0.06	0.08	0.09	0.08	0.08	0.09	0.09
25-34 years old	0.15	0.16	0.12	0.13	0.12	0.13	0.17	0.18
35-49 years old	0.22	0.22	0.24	0.26	0.24	0.27	0.28	0.30
More than 50 years old	0.54	0.56	0.56	0.52	0.56	0.53	0.46	0.42
Income Q1	0.25	0.25	0.25	0.28	0.25	0.27	0.25	0.22
Income Q2	0.25	0.25	0.25	0.28	0.25	0.27	0.25	0.27
Income Q3	0.25	0.23	0.25	0.23	0.25	0.27	0.25	0.27
Income Q4	0.25	0.27	0.25	0.21	0.25	0.19	0.25	0.25
Region 1	0.10	0.10	0.20	0.20	0.17	0.18	0.12	0.10
Region 2	0.15	0.16	0.11	0.12	0.18	0.19	0.14	0.13
Region 3	0.18	0.16	0.19	0.17	0.35	0.38	0.23	0.21
Region 4	0.29	0.27	0.27	0.30	0.11	0.10	0.29	0.33
Region 5	0.28	0.31	0.23	0.21	0.20	0.16	0.22	0.23
Urban	0.80	0.76	0.83	0.89	0.70	0.76	0.57	0.66
College education (25-64)	0.31	0.32	0.20	0.38	0.53	0.72	0.33	0.46
Share of voters	0.67	0.86	0.59	0.87	0.54	0.79	0.63	0.87
Voters: Left	0.41	0.42	0.24	0.31	0.29	0.22	0.02	0.06
Voters: Center	0.07	0.07	0.36	0.20	0.31	0.15	0.16	0.13
Voters: Right	0.49	0.40	0.39	0.32	0.35	0.44	0.81	0.76
Voters: Other	0.03	0.04	0.02	0.07	0.05	0.05	0.00	NA
Voters: Not reported	NA	0.06	NA	0.10	NA	0.14	NA	0.05
Inactivity rate (15-64)	0.21	0.23	0.36	0.19	0.20	0.22	0.29	0.18
Unemployment rate (15-64)	0.04	0.07	0.09	0.17	0.03	0.05	0.03	0.09
Employment rate (15-64)	0.76	0.72	0.58	0.67	0.77	0.74	0.69	0.75

Summary Statistics – High-income countries 3

Back

	South Korea		Spain		U.K.		U.S.	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample
Sample size	NA	1,932	NA	2,268	NA	2,025	NA	2,218
Man	0.50	0.56	0.49	0.49	0.50	0.52	0.50	0.47
18-24 years old	0.10	0.09	0.08	0.10	0.10	0.09	0.12	0.12
25-34 years old	0.16	0.19	0.12	0.14	0.17	0.19	0.18	0.18
35-49 years old	0.27	0.31	0.28	0.29	0.24	0.24	0.24	0.25
More than 50 years old	0.47	0.40	0.51	0.48	0.49	0.48	0.46	0.45
Income Q1	0.25	0.27	0.25	0.25	0.25	0.27	0.20	0.26
Income Q2	0.25	0.28	0.25	0.27	0.25	0.25	0.24	0.28
Income Q3	0.25	0.32	0.25	0.23	0.25	0.21	0.24	0.26
Income Q4	0.25	0.13	0.25	0.25	0.25	0.27	0.31	0.20
Region 1	0.25	0.24	0.19	0.21	0.21	0.21	0.21	0.20
Region 2	0.34	0.37	0.30	0.28	0.13	0.13	0.17	0.18
Region 3	0.19	0.23	0.11	0.10	0.24	0.23	0.38	0.39
Region 4	0.22	0.17	0.13	0.15	0.11	0.10	0.24	0.23
Region 5	NA	NA	0.28	0.26	0.31	0.33	NA	NA
Urban	0.92	0.95	0.70	0.75	0.82	0.84	0.73	0.72
College education (25-64)	0.51	0.74	0.40	0.57	0.49	0.62	0.61	0.60
Share of voters	0.75	0.87	0.63	0.85	0.60	0.82	0.62	0.82
Voters: Left	0.47	0.63	0.41	0.45	0.39	0.37	0.51	0.57
Voters: Center	0.21	0.11	0.07	0.09	0.12	0.11	NA	NA
Voters: Right	0.31	0.17	0.36	0.25	0.46	0.47	0.47	0.36
Voters: Other	0.01	NA	0.16	0.14	0.04	0.02	0.02	0.02
Voters: Not reported	NA	0.09	NA	0.07	NA	0.03	NA	0.05
Inactivity rate (15-64)	0.31	0.17	0.28	0.18	0.21	0.24	0.27	0.26
Unemployment rate (15-64)	0.04	0.08	0.16	0.14	0.05	0.09	0.08	0.13
Employment rate (15-64)	0.66	0.76	0.62	0.71	0.75	0.69	0.67	0.64

Summary Statistics – Middle-income countries 1

Back

	Brazil		China		India		Indonesia	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample
Sample size	NA	1,860	NA	1,717	NA	2,472	NA	2,488
Man	0.49	0.45	0.51	0.54	0.51	0.58	0.50	0.52
18-24 years old	0.15	0.16	0.10	0.12	0.18	0.23	0.17	0.19
25-34 years old	0.22	0.23	0.20	0.26	0.24	0.27	0.23	0.26
35-49 years old	0.30	0.32	0.28	0.35	0.29	0.24	0.31	0.31
More than 50 years old	0.34	0.29	0.42	0.27	0.28	0.26	0.29	0.24
Income Q1	0.25	0.24	0.25	0.13	0.25	0.27	0.25	0.28
Income Q2	0.25	0.30	0.25	0.25	0.25	0.24	0.25	0.24
Income Q3	0.25	0.24	0.25	0.29	0.25	0.25	0.25	0.23
Income Q4	0.25	0.22	0.25	0.32	0.25	0.24	0.25	0.25
Region 1	0.08	0.07	0.29	0.31	0.27	0.20	0.08	0.07
Region 2	0.09	0.04	0.12	0.17	0.26	0.25	0.30	0.31
Region 3	0.27	0.28	0.08	0.05	0.13	0.15	0.13	0.11
Region 4	0.14	0.15	0.29	0.23	0.20	0.24	0.21	0.20
Region 5	0.42	0.45	0.22	0.24	0.14	0.17	0.27	0.31
Urban	0.69	0.77	0.63	0.53	0.36	0.46	0.57	0.62
College education (25-64)	0.20	0.64	0.10	0.59	0.09	0.72	0.13	0.45
Share of voters	0.67	0.92	NA	NA	0.65	0.79	0.74	0.90
Voters: Left	0.30	0.24	NA	NA	0.39	0.27	0.19	0.42
Voters: Center	0.19	0.10	NA	NA	NA	NA	0.17	0.06
Voters: Right	0.50	0.52	NA	NA	0.46	0.61	0.54	0.39
Voters: Other	0.01	0.06	NA	NA	0.16	0.03	0.10	NA
Voters: Not reported	NA	0.08	NA	NA	NA	0.08	NA	0.13
Inactivity rate (15-64)	0.34	0.12	0.23	0.10	0.46	0.20	0.30	0.20
Unemployment rate (15-64)	0.14	0.11	0.03	0.01	0.09	0.04	0.06	0.05
Employment rate (15-64)	0.57	0.79	0.75	0.89	0.49	0.76	0.66	0.76

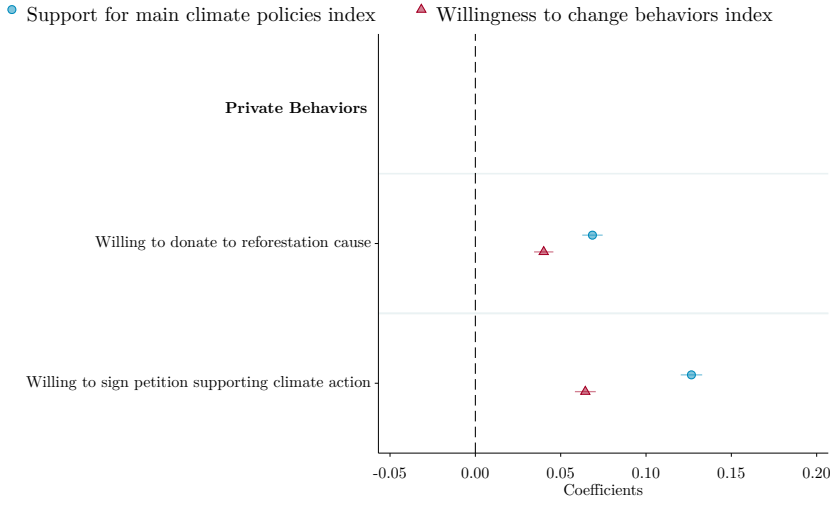
Summary Statistics – Middle-income countries 2

Back

	Mexico		Turkey		South Africa		Ukraine	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample
Sample size	NA	2,045	NA	1,932	NA	2,003	NA	1,564
Man	0.48	0.49	0.49	0.43	0.49	0.46	0.45	0.61
18-24 years old	0.18	0.18	0.16	0.18	0.21	0.21	0.08	0.12
25-34 years old	0.23	0.24	0.21	0.24	0.28	0.29	0.18	0.25
35-49 years old	0.30	0.31	0.30	0.34	0.28	0.28	0.28	0.40
More than 50 years old	0.29	0.27	0.33	0.24	0.22	0.22	0.46	0.24
Income Q1	0.25	0.26	0.25	0.14	0.25	0.16	0.25	0.17
Income Q2	0.25	0.27	0.25	0.28	0.25	0.24	0.25	0.24
Income Q3	0.25	0.24	0.25	0.28	0.25	0.32	0.25	0.24
Income Q4	0.25	0.22	0.25	0.30	0.25	0.27	0.25	0.36
Region 1	0.33	0.38	0.25	0.28	0.12	0.09	0.31	0.37
Region 2	0.22	0.18	0.18	0.12	0.24	0.29	0.21	0.17
Region 3	0.10	0.10	0.30	0.34	0.18	0.17	0.22	0.26
Region 4	0.13	0.12	0.26	0.26	0.33	0.26	0.25	0.20
Region 5	0.23	0.22	NA	NA	0.13	0.18	NA	NA
Urban	0.64	0.81	0.87	0.96	0.49	0.63	0.70	0.88
College education (25-64)	0.19	0.66	0.16	0.65	0.16	0.49	NA	0.67
Share of voters	0.53	0.86	0.83	0.88	0.44	0.67	0.53	0.76
Voters: Left	0.56	0.54	0.35	0.30	0.68	0.45	0.16	0.19
Voters: Center	0.18	0.10	0.10	0.07	0.21	0.32	0.67	0.69
Voters: Right	0.19	0.20	0.55	0.50	0.06	0.04	0.13	0.03
Voters: Other	0.07	0.02	0.00	NA	0.05	0.04	0.03	NA
Voters: Not reported	NA	0.14	NA	0.14	NA	0.15	NA	0.10
Inactivity rate (15-64)	0.35	0.12	0.45	0.21	0.45	0.16	0.38	0.15
Unemployment rate (15-64)	0.04	0.07	0.13	0.12	0.29	0.16	0.10	0.10
Employment rate (15-64)	0.59	0.81	0.48	0.69	0.38	0.71	0.56	0.76

Do Survey Responses Reflect Actual Behaviors? Correlation between self-reported support and actual behaviors

Back



Real-stakes questions

Back

By taking this survey, you are automatically entered into a lottery to win $100. In a few days you will know whether you have been selected in the lottery. The payment will be made to you in the same way as your compensation for this survey, so no further action is required on your part.

You can also donate a part of this additional compensation (should you be selected in the lottery) to a reforestation project through the charity The Gold Standard. This charity has already proven effective to reduce 151 million tons of CO_2 to fight climate change and has been carefully selected by our team. The Gold Standard is highly transparent and ensures that its projects feature the highest levels of environmental integrity and contribute to sustainable development.

Should you win the lottery, please enter your donation amount using the slider below:

0 20 40 60 80 100

Donation amount (in U.S. dollars)

Finally, are you willing to sign a petition to "stand up for real climate action"?

As soon as the survey is complete, we will send the results to the U.S. President's office, informing him what share of people who took this survey were willing to support the following petition.

"I agree that immediate action on climate change is critical. Now is the time to dedicate ourselves to a low-carbon future and prevent lasting damage to all living things. Science shows us we cannot afford to wait to cut harmful carbon emissions. I'm adding my voice to the call to world leaders in the U.S. and beyond -- to act so we do not lose ground in combating climate change."

Do you support this petition (you will NOT be asked to sign, only your answer here is required and remains anonymous)?

Yes ○ No ○

Real-stakes questions

Back

Finally, are you willing to sign a petition to "stand up for real climate action"? As soon as the survey is complete, we will send the results to the [head of state's] office, informing him what share of people who took this survey were willing to support the following petition. "I agree that immediate action on climate change is critical. Now is the time to dedicate ourselves to a low-carbon future and prevent lasting damage to all living things. Science shows us we cannot afford to wait to cut harmful carbon emissions. I'm adding my voice to the call to world leaders in [country] and beyond – to act so we do not lose ground in combating climate change." Do you support this petition (you will NOT be asked to sign, only your answer here is required and remains anonymous)?

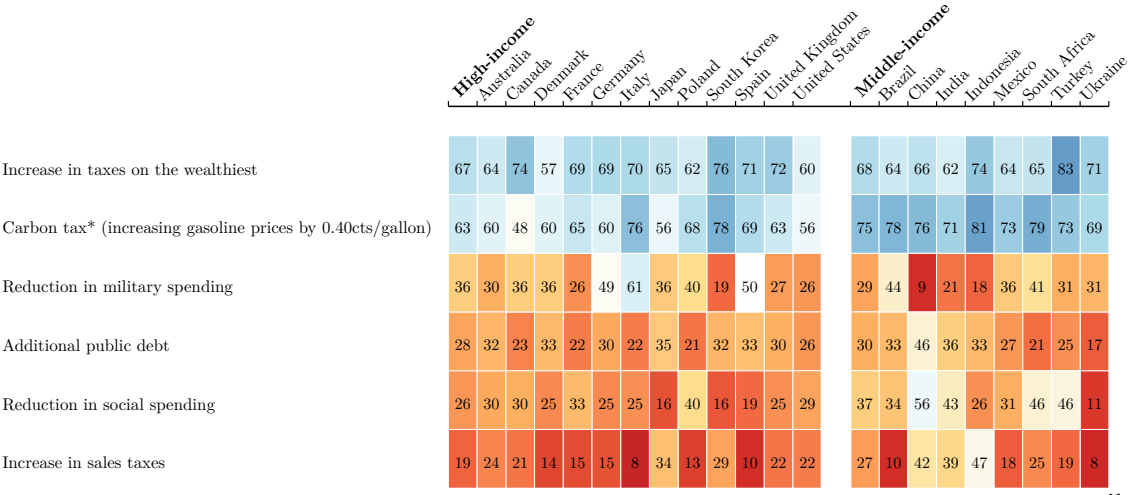
Yes; No

By taking this survey, you are automatically entered into a lottery to win [$100]. In a few days you will know whether you have been selected in the lottery. The payment will be made to you in the same way as your compensation for this survey, so no further action is required on your part. You can also donate a part of this additional compensation (should you be selected in the lottery) to a reforestation project through the charity The Gold Standard. This charity has already proven effective to reduce 151 million tons of CO_2 to fight climate change and has been carefully selected by our team. The Gold Standard is highly transparent and ensures that its projects feature the highest levels of environmental integrity and contribute to sustainable development. Should you win the lottery, please enter your donation amount using the slider below:

Slider going from 0 to [100]

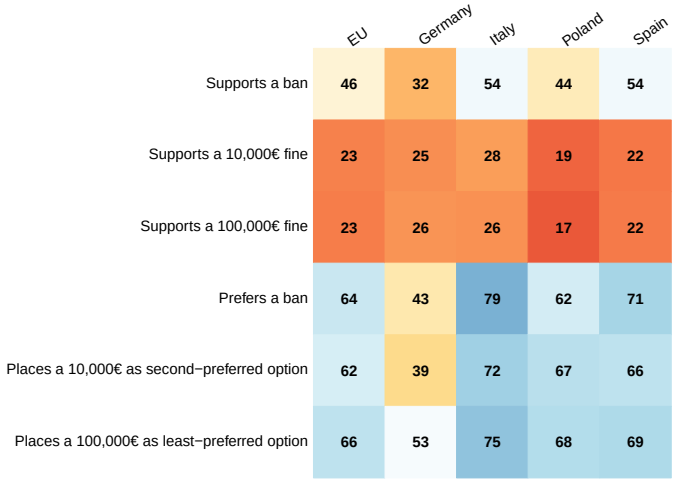
Share of respondents who find the following sources of funding appropriate for public investments in green infrastructure? (Multiple answers possible)

Back



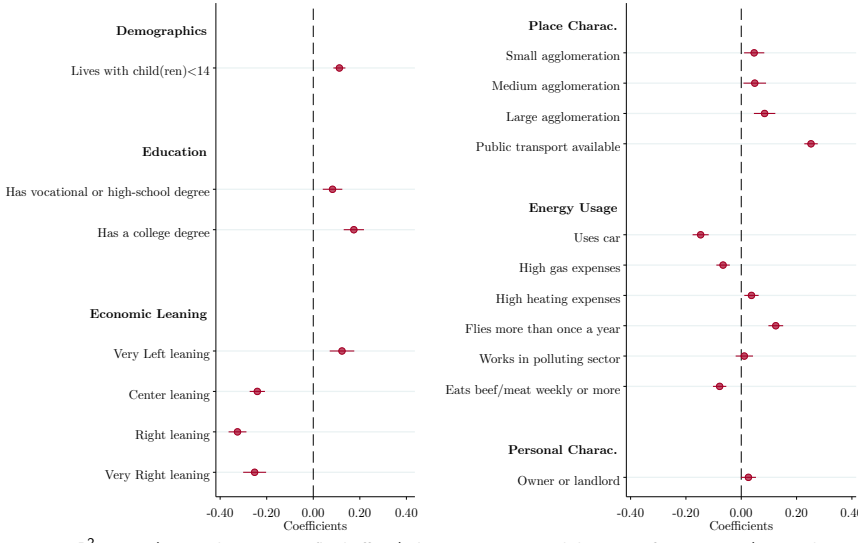
Support for variants of the ban on combustion-engine cars

Back



Support for main policies and individual characteristics

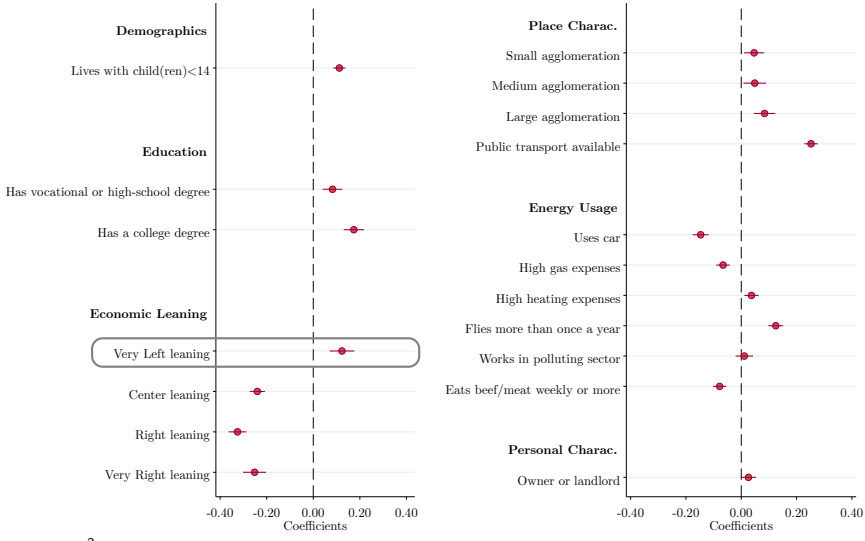
Back



R^2 is 0.18 (0.09 without country fixed effects). Increases to 0.24 with large set of interactions (0.12 without country fixed effects)

Political leaning one of strongest predictors of views on CC

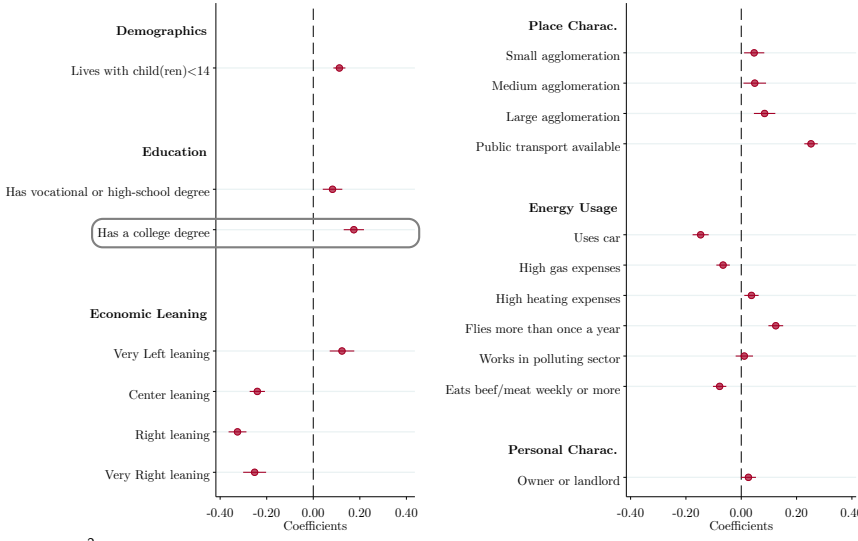
Back



R^2 is 0.18 (0.09 without country fixed effects). Increases to 0.24 with large set of interactions (0.12 without country fixed effects)

College-educ. support more climate action in most countries

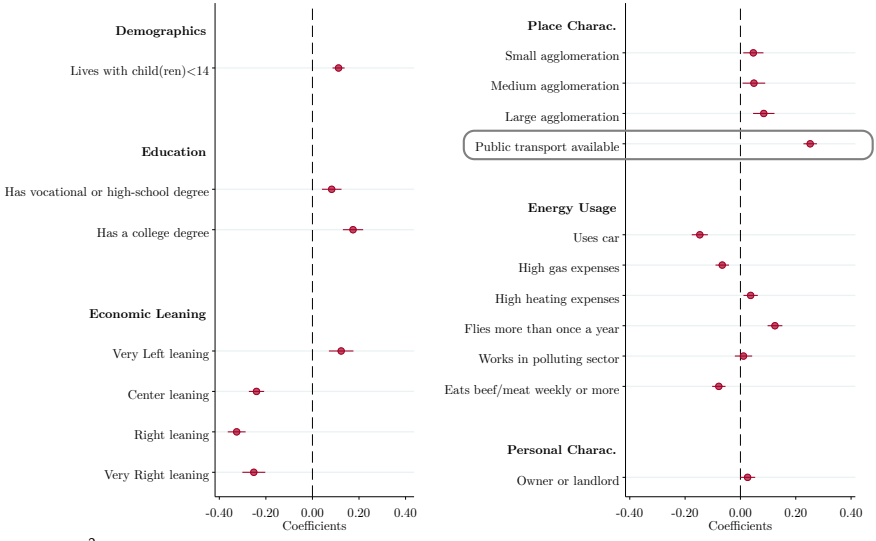
Back



R^2 is 0.18 (0.09 without country fixed effects). Increases to 0.24 with large set of interactions (0.12 without country fixed effects)

Access to public transport strongly correlated with support

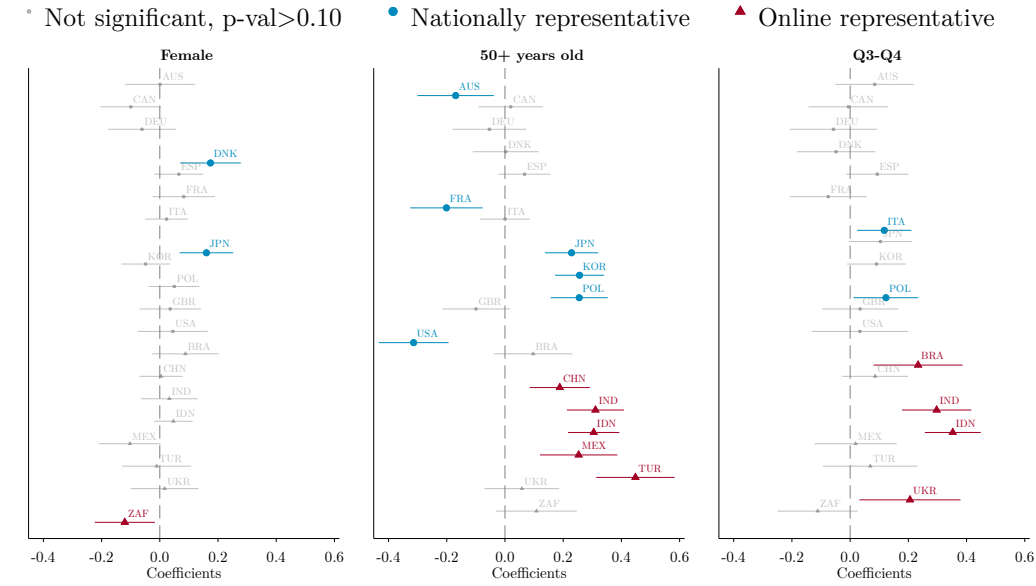
Back



R^2 is 0.18 (0.09 without country fixed effects). Increases to 0.24 with large set of interactions (0.12 without country fixed effects)

Heterogeneous effects of gender, age, & income by country

Back



Knowledge across countries: Share of correct answers

Back

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

Few outright deny of climate change; most believe it is anthropogenic

Back

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	63	37	60	49	52	31	31	41	41	43	26	33	23	20	10	33	26	21	36

People correctly foresee consequences of climate change

Back

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

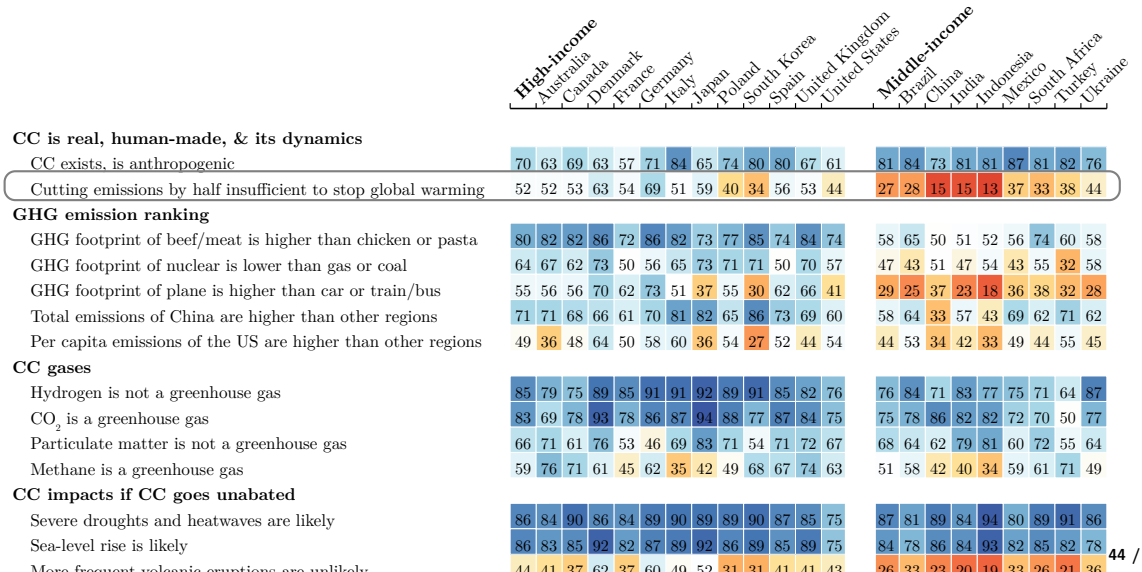
People make insufficient distinction between disaster types

Back

	High-income	Australia	Canada	Denmark	France	Germany	Italy	Japan	Poland	South Korea	Spain	United Kingdom	United States	**Middle-income**	Brazil	China	India	Indonesia	Mexico	South Africa	Turkey	Ukraine
CC is real, human-made, & its dynamics																						
CC exists, is anthropogenic	70	63	69	63	57	71	84	65	74	80	80	67	61	81	84	73	81	81	87	81	82	76
Cutting emissions by half insufficient to stop global warming	52	52	53	63	54	69	51	59	40	34	56	53	44	27	28	15	15	13	37	33	38	44
GHG emission ranking																						
GHG footprint of beef/meat is higher than chicken or pasta	80	82	82	86	72	86	82	73	77	85	74	84	74	58	65	50	51	52	56	74	60	58
GHG footprint of nuclear is lower than gas or coal	64	67	62	73	50	56	65	73	71	71	50	70	57	47	43	51	47	54	43	55	32	58
GHG footprint of plane is higher than car or train/bus	55	56	56	70	62	73	51	37	55	30	62	66	41	29	25	37	23	18	36	38	32	28
Total emissions of China are higher than other regions	71	71	68	66	61	70	81	82	65	86	73	69	60	58	64	33	57	43	69	62	71	62
Per capita emissions of the US are higher than other regions	49	36	48	64	50	58	60	36	54	27	52	44	54	44	53	34	42	33	49	44	55	45
CC gases																						
Hydrogen is not a greenhouse gas	85	79	75	89	85	91	91	92	89	91	85	82	76	76	84	71	83	77	75	71	64	87
CO_2 is a greenhouse gas	83	69	78	93	78	86	87	94	88	77	87	84	75	75	78	86	82	82	72	70	50	77
Particulate matter is not a greenhouse gas	66	71	61	76	53	46	69	83	71	54	71	72	67	68	64	62	79	81	60	72	55	64
Methane is a greenhouse gas	59	76	71	61	45	62	35	42	49	68	67	74	63	51	58	42	40	34	59	61	71	49
CC impacts if CC goes unabated																						
Severe droughts and heatwaves are likely	86	84	90	86	84	89	90	89	89	90	87	85	75	87	81	89	84	94	80	89	91	86
Sea-level rise is likely	86	83	85	92	82	87	89	92	86	89	85	89	75	84	78	86	84	93	82	85	82	78
More frequent volcanic eruptions are unlikely	44	41	37	62	37	60	49	52	31	31	41	41	43	26	33	23	20	19	33	26	21	36

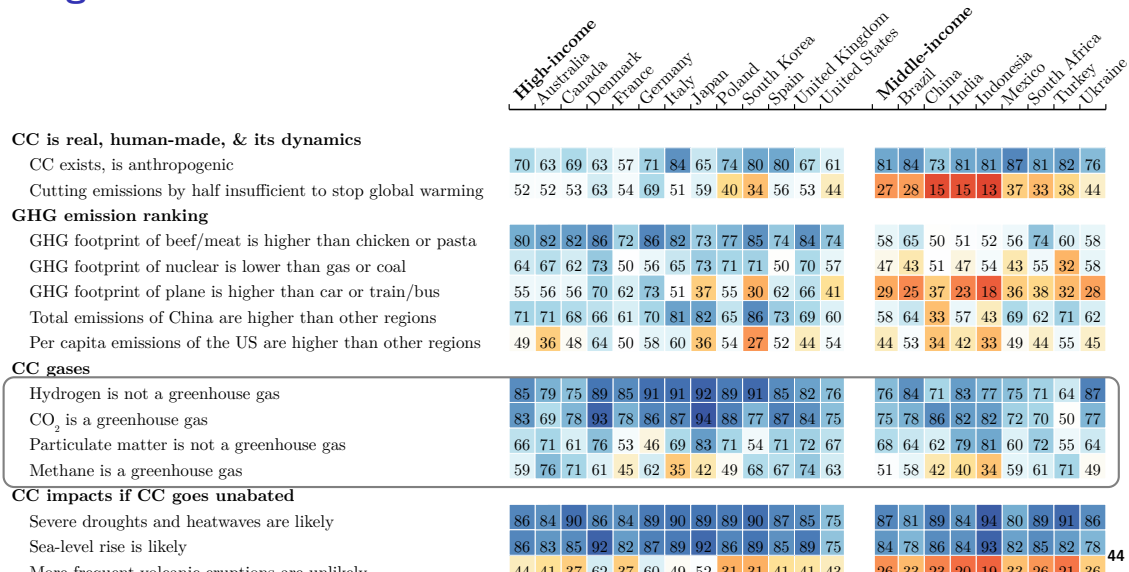
People are too optimistic about level of decarbonization needed

Back



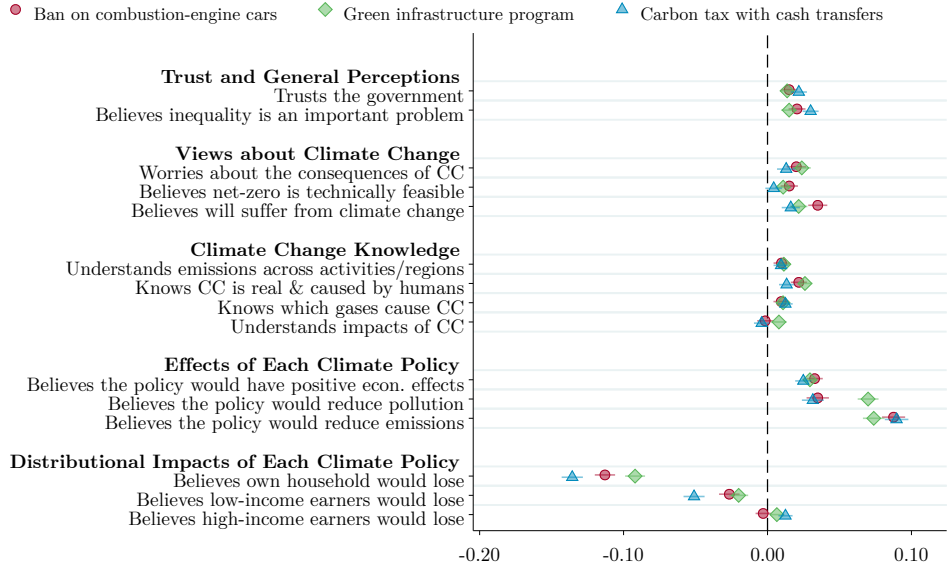
Most people are aware of the factors that cause climate change

Back



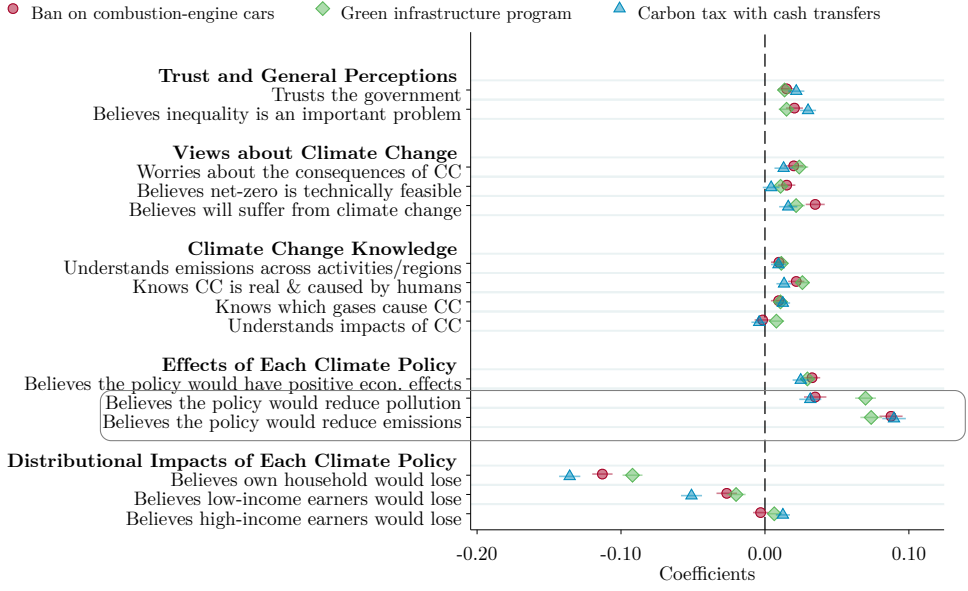
Correlation between support for three main policies and beliefs

Back



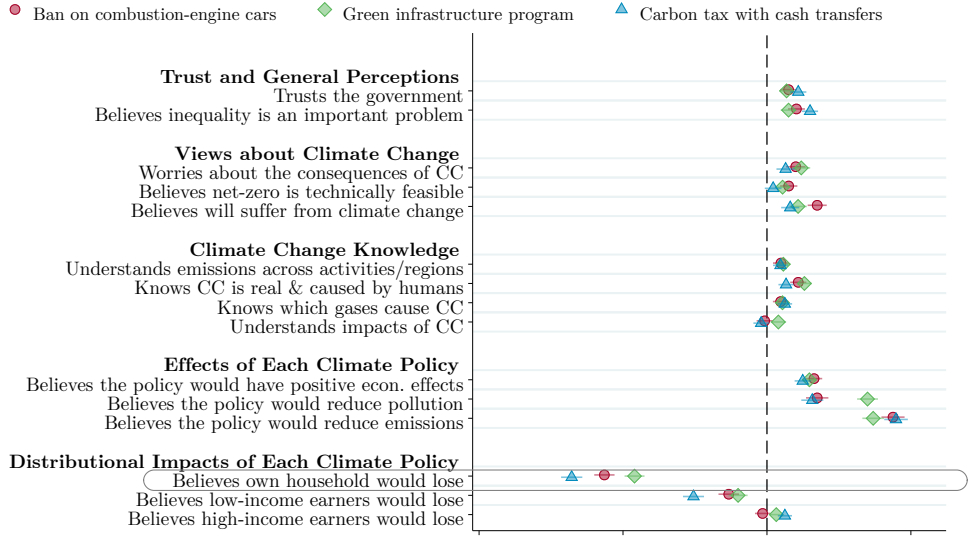
Beliefs in effectiveness explain 24% of variation in policy views

Back



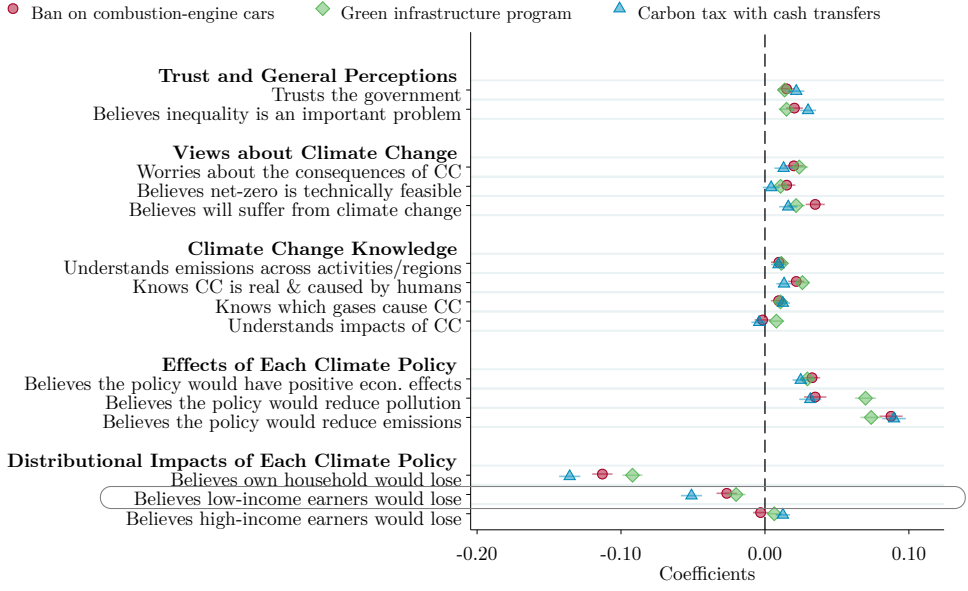
Belief in one's own loss explains 15% of variation in policy views

Back



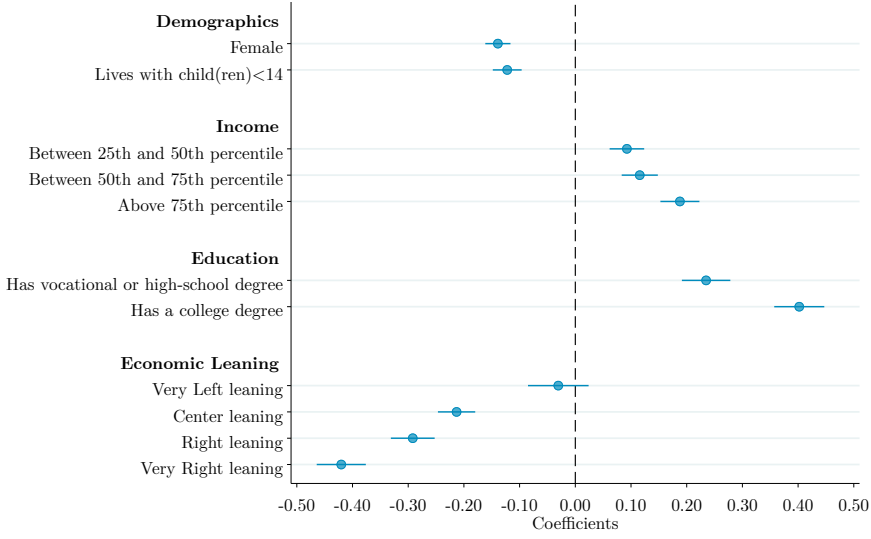
Perceived progressivity explains 8% of variation in policy views

Back



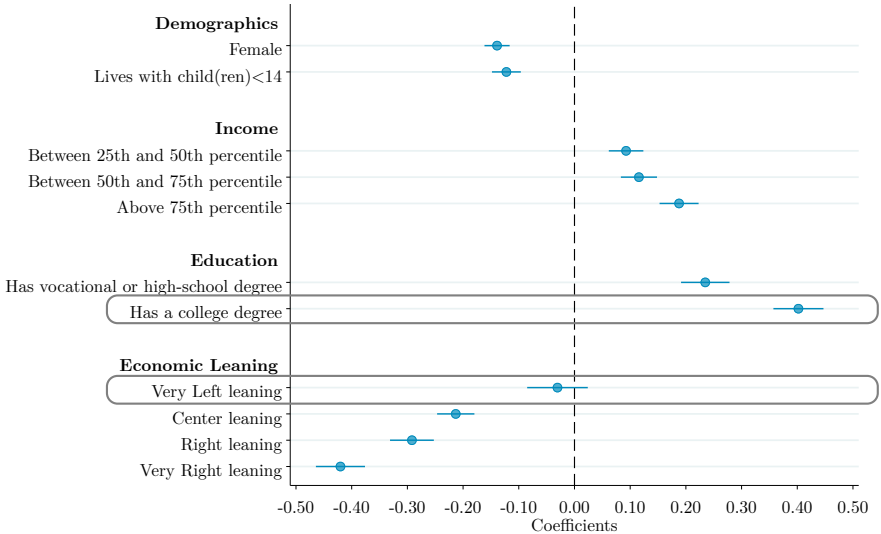
Correlation between knowledge and socioeconomic characteristics

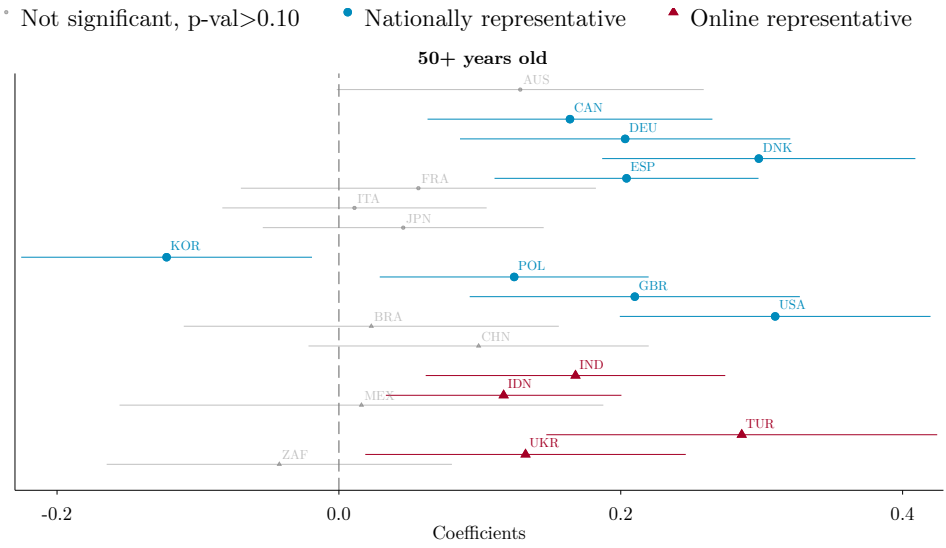
Back



Educated and left-leaning have better knowledge about climate change

Back



Heterogeneous effect of age on knowledge across countries

Back