ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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BETTER POLICIES FOR BETTER LIVES

Policy Brief

Designing Socially Acceptable and Effective Climate Policies

July 2022

Policy recommendations to improve the acceptability of climate policies

To boost public acceptability of climate policies governments can:

- *Better inform citizens about how climate policies work and who they affect.* Information campaigns targeted at the impact of climate policies (on emissions, on energy bills and on who wins and who loses) greatly improve citizens' perceptions of these policies. Detailed large-scale surveys are useful tools to understand citizens' concerns and perceptions towards climate change and climate policies, and could form part of climate policy packages. Simulation tools on policies' impacts can also help.
- *Accelerate the diffusion of low-carbon alternatives*. The absence of low-carbon alternatives is a major explanation for lack of support for climate policies. To increase public support, and ahead of any carbon price mechanism, it is crucial to accelerate investments in low-carbon infrastructure (e.g. charging stations for electric vehicles, public transportation) and to help households adopt low-carbon equipment (e.g. conversion of boilers or polluting vehicles, subsidies for improved insulation in housing). Helping households to adopt low-carbon equipment also protects them from current and future increases in energy prices.
- *Address the demand for progressivity.* The perception that a climate policy may be regressive explains much of the lack of support. This is particularly true for energy taxation and carbon pricing. Redistributing all or part of the revenues from such instruments to compensate vulnerable households addresses demands for progressivity and increases public support. Majority support for carbon pricing exists across many countries when revenues are partly used to finance compensation for fossil fuel-dependent households or transfers for poorest households.
- *Consider earmarking revenues from green taxes.* Allocating revenues from green taxes to finance the clean transition by subsidising clean technologies and to provide compensatory transfers that ensure progressivity strongly increases support for such taxes. Across countries, a majority supports the introduction of carbon pricing if its revenues are earmarked to clean technology support and compensation of vulnerable households.

Note: Detailed results are available in the underlying Working Paper: Dechezleprêtre, A., A. Fabre., T. Kruse., B. Planterose, A. Sanchez Chico, and S. Stantcheva (2022[1]). "Fighting Climate Change: International Attitudes toward Climate Policies", OECD Economics Department Working Paper"

Background and objectives of the study

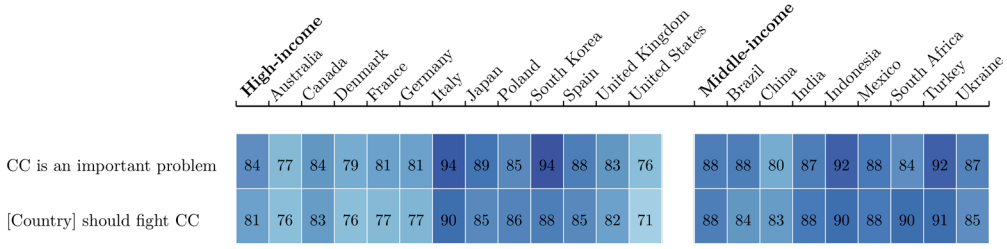
As countries ramp up climate mitigation ambitions, understanding the determinants of public support for climate policies will be crucial for policy makers devising and implementing strategies to achieve net zero emissions targets. This Policy Brief presents the results of a large-scale survey on preferences for and understanding of climate change mitigation policies, covering 40 000 respondents from 20 countries, both advanced and large emerging market economies

Climate change is an existential threat, posing severe risks to individuals, society and to the economy, as exemplified by the increasing frequency and intensity of extreme weather events, and the impacts of climate change are expected to rise further with temperature increases (NOAA, 2021[1]; IPCC, 2022[2]). In line with the international commitments of the 2015 Paris Agreement, limiting average temperature increases to well below 2 degrees Celsius above pre-industrial levels requires global emissions to be cut to net zero by around mid-century (IPCC, 2021[3]). Looking at long-term commitments, governments appear to be taking this scientific imperative very seriously: over 100 countries, representing more than 80% of the world economy, have now announced targets of carbon neutrality by around mid-century.

However, while climate mitigation ambitions are being ramped up, actual policy measures to achieve them are still lagging. With the currently implemented policies, average temperatures are still expected to rise to about 2.7°C by 2100, increasing the likelihood of catastrophic impacts for societies and economies (Climate Action Tracker, 2021[4]; IPCC, 2022[2]).

To be effective, climate policies must address several challenges, including structural impediment such as barriers to innovation, financing and the adoption of low-carbon technologies, as well as barriers related to the political economy and public acceptability of climate policies (D'Arcangelo et al., 2022[5]; OECD, 2021[6]). Climate policies have often been difficult to pass, even when the objective of limiting global warming is broadly accepted: across all 20 countries covered in the survey, a large majority of at least three-quarter of respondents agree that climate change is an important problem and that their country should take measures to fight it (Figure 1). This broad support, however, often does not translate into tangible support for climate policies. Relative to other policy areas, public acceptability of measures to fight climate change is further complicated by the public good and global nature of the problem, the uncertainties about future impacts, and the long time horizon. Understanding the conditions of public acceptability is key for addressing citizens' concerns and potential misconceptions, and to design successful climate policies.

Figure 1. Climate change is seen as an important problem across countries



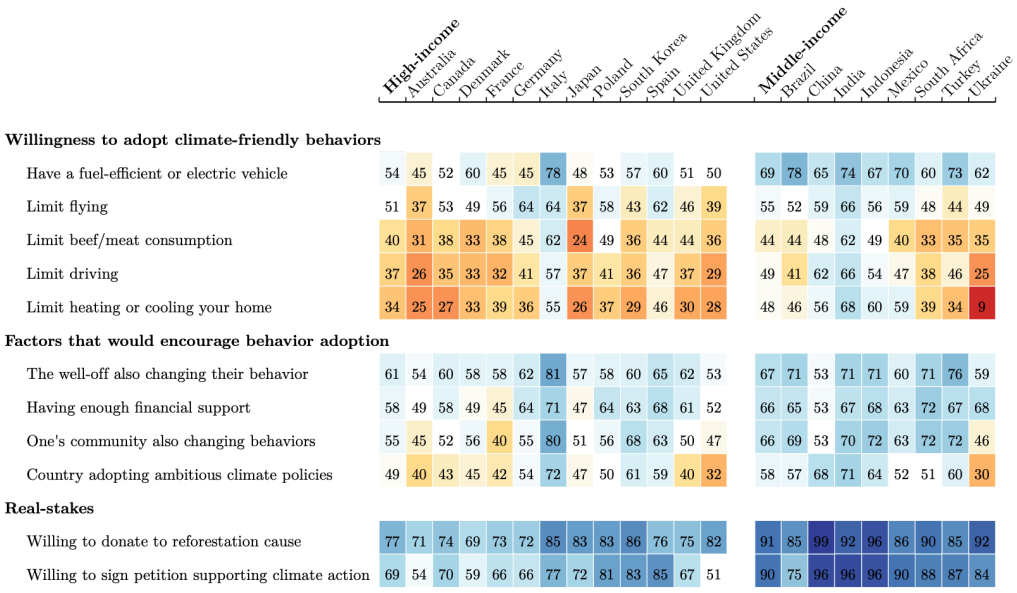
Note: The figure shows the Share of respondents who somewhat to strongly agree that "Climate change is an important problem" and that their country "should take measures to fight climate change."
Source: (Dechezleprêtre et al., 2022[7]).

Both the policy mix in place, and the one likely to be implemented to achieve net zero emissions, differ among countries depending on their income level, demographic characteristics, and economic structure. This study seeks to understand what drives support for or opposition to a large set of important climate policies across the world. It presents the results of a large-scale international survey on over 40 000 respondents across twenty countries, which together account for 72% of global CO_2 emissions, and include 18 out of the 21 largest emitters of greenhouse gasses. The surveys are standardised to allow for cross-country comparability, while also adapted to country-specific conditions. They provide detailed country-specific insights and aim to help policy makers design successful climate policies that are both effective and widely supported by citizens.

People's willingness to change behaviour

Changing individual behaviours will be crucial for climate mitigation. Given current incentives and policies, around half of respondents across countries are willing to limit flying or to purchase a fuel-efficient car or electric vehicle. However, in most OECD countries, the majority is only moderately willing to limit driving, to reduce heating or cooling in their homes, or to limit their beef consumption in order to lower their individual carbon footprint (Figure 2). Therefore, calling for voluntary behavioural changes will certainly not achieve the emission reductions needed to reach the goal of net zero emissions by mid-century.

Figure 2. Willingness to change behaviour



Note: The figure reports the share of respondents answering "A lot" or "A great deal" to the willingness to adopt different behaviours, and to the importance of different conditions for such adoption, as well as real-stakes questions. Behaviours relate to the question "To what extent would you be willing to adopt the following behaviours?", and Factors to "How important are the factors below in order for you to adapt a sustainable lifestyle (i.e. limit driving, flying, and consumption, cycle more, etc.)?". Both questions use a 5-point scale: "Not at all", "A little", "Moderately", "A lot", "A great deal". Real-stake questions include the signature of a petition to "stand up for real climate action" and an indicator that the respondent chose to donate a proportion of the prize of USD 100 should they win the survey's lottery.
Source: (Dechezleprêtre et al., 2022[7]).

Certain factors can encourage people to adopt sustainable behaviours. In all countries, a majority reports that an important factor for them to consider changing their own lifestyle is whether the well-off also change their behaviour. In addition, having sufficient financial support to change one's own behaviour and adopt a sustainable lifestyle is important for a majority in most countries. Subsidising the adoption of low-carbon

technologies (e.g. residential heat pumps, solar PV or thermal renovations) can increase adoption and help reduce emissions.

The survey also evaluates responses to "real-stakes" questions: respondents are asked if they would be willing to make a donation to a climate-friendly NGO and to sign a petition in favour of climate action. Across countries, high shares of respondents are willing to sign a petition supporting action on climate change and are willing to donate more than one-fifth of the potential winnings from a USD 100 lottery to finance climate mitigation projects. Thus, people are willing to voluntarily make a financial contribution to climate protection in the form of a donation, yet they are much less willing to voluntarily change their behaviours.

Behavioural changes

- Calling for voluntary behavioural changes will not achieve substantial emission reductions, let alone those needed to reach the goal of net zero emissions by mid-century.
- Although a majority is willing to unconditionally make some changes in their behaviour, people usually need to perceive a fair sharing of the burden to accept drastic changes.

Policy support

Across countries, the most popular policies are subsidies for low-carbon technologies, as well as public investments in green infrastructure, such as renewable energy, public transport or investment in thermal renovations of buildings (Figure 3). To make rapid progress toward fighting climate change, public investment and technology subsidies can be implemented in the short run with broad public support. Moreover, public investments and innovation subsidies can lower the cost of green technologies over time, increasing their availability and making them affordable to many people. As the costs for clean alternatives fall, policies restricting the use or increasing the costs of polluting technologies can become more acceptable.

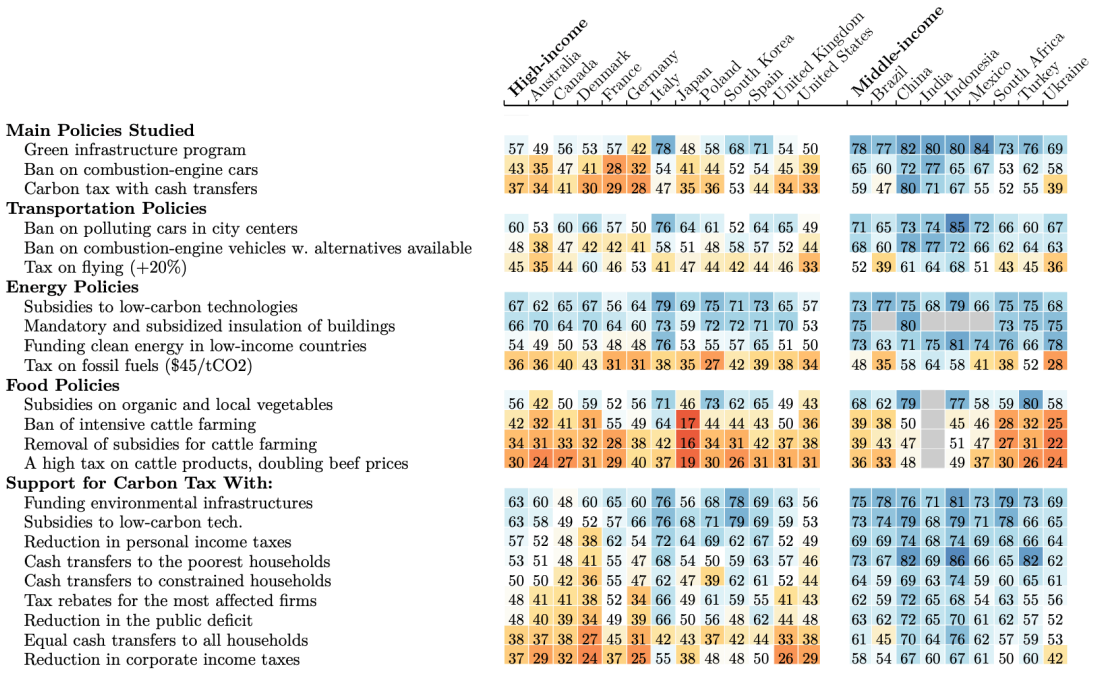
Many respondents across countries support banning polluting vehicles in city centres or densely inhabited areas, which carry additional co-benefits such as lower levels of air pollution. Support for more generalised bans on the production and sale of combustion engine cars tends to be lower, reflecting concerns about alternative modes of transportation. In the case when public transport was being made available – both in urban and rural areas – support for a ban on combustion engine cars would increase by about 10% on average across all countries. The effects vary by country and can be as high as a 50% increase in France and a 28% increase in Germany in support for a ban of combustion engine cars when the availability of public transport is improved.

Importantly, carbon pricing can receive clear majority support when the revenues are used to fund green infrastructure and clean technology adoption, or when coupled with reduced income taxes or strongly progressive uses of tax revenues (such as cash transfers to poorest or most fossil fuel dependent households). Therefore, the use of the tax revenues matters a lot for policy support. Carbon taxes and taxes on fossil fuels without the earmarking of revenues are among the least popular policies. Using revenues from carbon pricing to lower corporate income taxes are highly unpopular across most OECD countries, in particular in Australia, Denmark, Germany, the United States and the United Kingdom where less than 30% would support such a policy. Distributing the revenues equally via lump-sum cash transfers

is also relatively unpopular (with less than 40% support in many OECD countries), although this option is still supported by a relative majority (i.e. excluding “indifferent” respondents) in all but three countries.

People are less likely to support policies that specifically aim to change eating habits. Policies to reduce emissions from agriculture and livestock, such as banning mass livestock farming or increasing the price of beef, are among the least popular climate policies in all countries. Policies to align the agricultural sector with net-zero emission targets will require additional efforts, including in developing affordable alternatives and communicating the climate impacts from food consumption.

Figure 3. Support for various climate change policies.



Note: The figure shows the share of respondents who somewhat or strongly support climate change policies. Opposition or support is asked on a 5-point scale with “Indifferent” as the middle option. The colours of the heat map illustrate support, from dark blue (strongest support) to dark red (lowest support). Most policies are supported by a relative majority (i.e. after excluding "Indifferent" answers), see Appendix Figure A4 of (Dechezleprêtre et al., 2022[1]).
Source: (Dechezleprêtre et al., 2022[7]).

Support for climate policies

- The ranking of policy preferences is similar across countries (both OECD and non-OECD).
- Public investment and technology subsidies can be implemented in the short run with broad public support.
- Banning polluting vehicles in city centres or densely inhabited areas is highly supported across countries. Making public transport available increases support substantially for more generalised bans of combustion engine cars.
- Unsurprisingly, taxes are much less supported than clean technology adoption support or direct regulation (“command-and-control”).
- Earmarking of revenues from environmental taxes to compensate households and invest in low-carbon technologies shifts support for climate policies from rejection to broad acceptance.
- Policies aiming to change eating habits and lower meat consumption are the most unpopular ones across countries, and will likely be difficult to implement in the short run.

Factors explaining policy support

Identifying individual-level socio-economic characteristics that impact support for climate policies helps to understand potential resistance to climate policies. It can also highlight groups that are or feel disadvantaged by climate policies, and to identify the need for complementary policies to reduce unfair burden sharing. To some extent, resistance to climate policies can arise from legitimate concerns regarding distributional impacts or the required lifestyle changes. Resistance may also owe to misconceptions or misunderstandings by households about the impacts of climate change as well as the impacts of climate policies both on the economy and on the environment.

The study identifies key factors that have a significant impact on support for climate policies across many countries via regression analysis, controlling for a rich set of individual-level characteristics and country specificities (Figure 4).

Three key beliefs are major predictors of whether people support a given climate policy:

- *Policy effectiveness:* Policies that are perceived to be more effective at reducing emissions are supported more.
- *Inequality concern*: Policies that are perceived to impose higher burdens on lower-income households are supported less.
- *Self-interest*: Perceived negative impacts on people's own household lowers support.

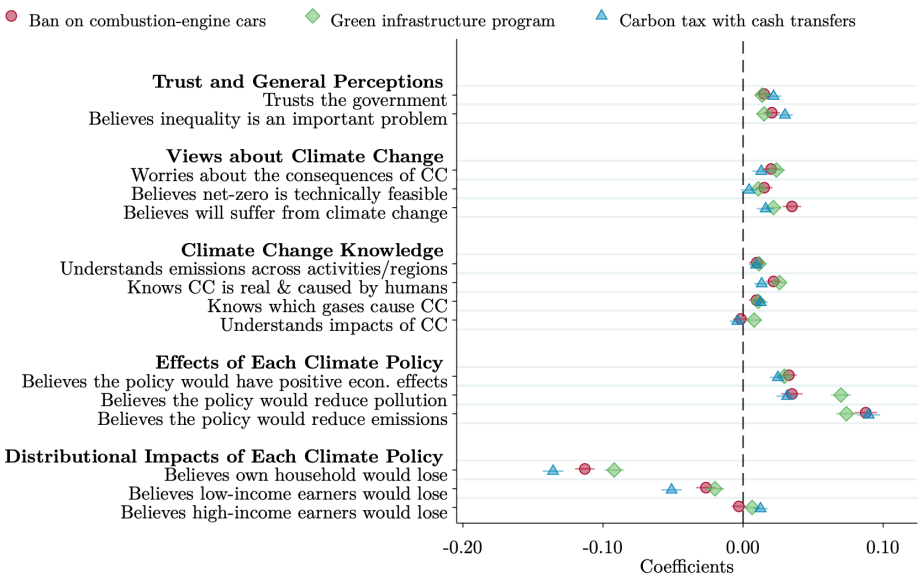
To be supported, climate policies must be seen as effective tools to reduce emissions, but they should also not disproportionally increase the burden on low-income households and households particularly vulnerable to policy changes. Design features (such as revenue recycling to low-income households) are needed to avoid regressive effects and to obtain broad support. Making cleaner alternatives more widely available and affordable helps to reduce the impacts of climate policies, notably on most exposed households. This includes for example financial support to purchase electric vehicles, subsidies for thermal renovations, and better availability of public transport.

Indeed, opposition to climate policies is strongly correlated with a lack of available public transportation, car usage, and, to a lesser extent, gasoline expenses (Figure 5). Lack of access to alternative modes of transport can prevent people from switching away from individual car usage. Increasing the availability of public transport in both urban and rural areas is needed to increase public support for policies reducing transport emissions. However, conditional on access to public transportation, living in a large agglomeration only has significantly positive effects in Denmark, the United Kingdom, Turkey, and the United States. Thus, the availability of public transport seems to be a first-order concern when considering support for stricter climate policies.

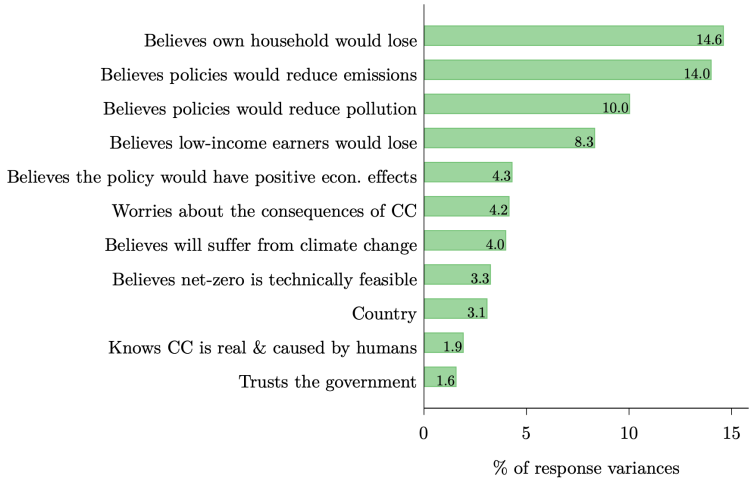
Car-dependent respondents are less supportive of bans on polluting cars (regardless of whether those are generalised bans on the production of combustion-engine cars, with or without alternatives made available, or limited to dense areas). They also exhibit lower support for taxes on fossil fuels and carbon taxes with cash transfers in Australia, France, Japan, Poland and the United Kingdom. They do not have different views though on taxes on flying, green infrastructure programs, subsidies for low-carbon technologies, or mandatory and subsidized insulation of buildings. Home owners and landlords are less supportive of mandatory insulation policies, but not less supportive of other climate change action. In addition, compensating low-income households for increases in energy prices to avoid unfair burden sharing is necessary (Boone and Elgouacem, 2021[8]).

Figure 4. Beliefs underlying support for the main climate policies

(A) Correlation between support for the three main policies and beliefs

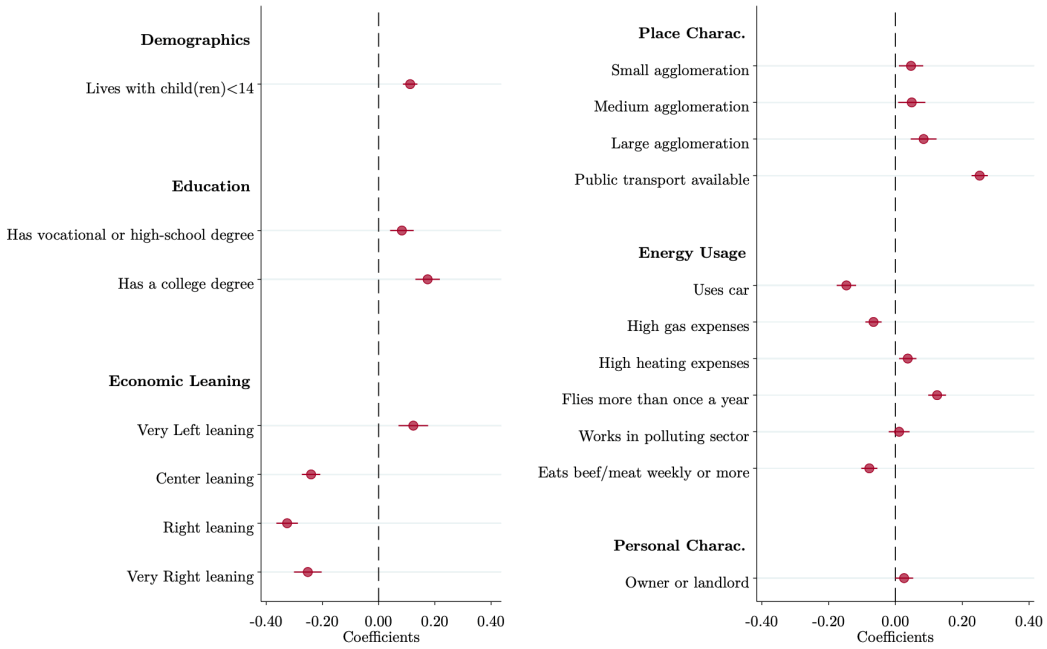


(B) Share of the variation in the support for main climate policies explained by different beliefs



Note: Panel A shows the coefficients from a regression of support for each policy (indicator variable equal to 1 if the respondent supports the policy somewhat or strongly) on standardized variables measuring respondents' beliefs and perceptions. Country fixed effects, treatment indicators, and individual socioeconomic characteristics are included but not displayed. The R2 is 0.7. Panel B depicts the share of the variance in the Support for main policies index that is explained by each belief and perception, conditional on country fixed effects. We use the LMG method (see Grömping 2007). See Appendix A-1 of Dechezleprêtre et al. (2022) for detailed variable definitions.
Source: (Dechezleprêtre et al., 2022[1])

Figure 5. Main determinants of support for climate policies



Note: The Figure shows the coefficients from a regression of the *Support for main policies index* on socio-economic indicators (left panel) and on socio-economic and energy use indicators (right panel). The *Support for main climate policies index* is based on support for the policies "Ban on combustion-engine cars", "Carbon tax with cash transfers" and "Green infrastructure program" with equal weights given to all 3 policies. The higher the index, the higher the average support of the respondent for the policies. All covariates are indicators. Country fixed effects, indicators for age, gender, income, and each treatment are included but not displayed. The omitted category for Place Characteristics is "Rural or very small agglomeration". The horizontal bar displays the 95% confidence interval.
Source: (Dechezleprêtre et al., 2022[7]).

On individual characteristics, we observe that respondents who live with children, respondents with higher education and respondents who see themselves as "left-leaning" on economic policy matters are more supportive of climate policies. The effect of income and age varies across countries. For example in Australia, France and the United States younger respondents are more supportive of climate policies, whereas in India, Indonesia, Japan, Mexico and Poland older respondents are more supportive of climate action. Yet, taken together, these individual characteristics explain only a small proportion of the variation in policy support across individuals, compared to the key beliefs outlined above.

Factors explaining public support

- Lack of support is explained by the absence of low-carbon alternatives and dependence on high-carbon technologies. Making low-carbon alternatives available is key to achieve public support for the transition.
- Three key beliefs are major predictors of whether people support a given climate policy, explaining a substantial share of the variation in policy views across people:
  - *Policy effectiveness*: Policies that are perceived to be more effective at reducing emissions are supported more;
  - *Inequality concerns*: Policies that are perceived to impose higher burdens on lower-income households are supported less;
  - *Self-interest*: Policies that are perceived to impose costs on people's own household are supported less.

The role of information provision for policy support

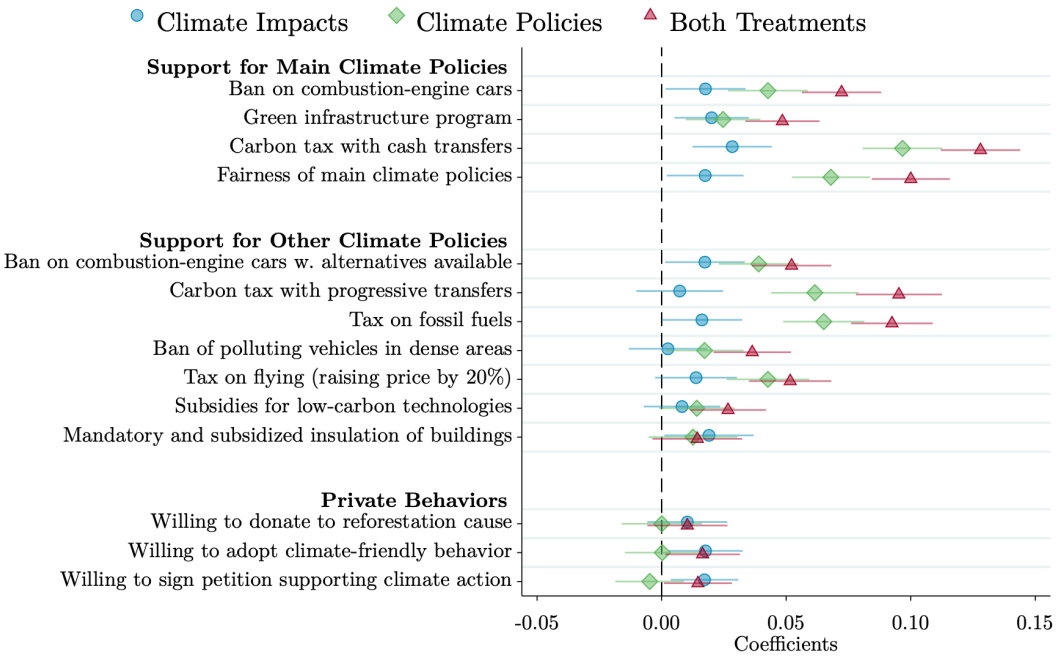
Another main factor influencing public support is knowledge and understanding of climate policies. As part of the study, randomised experiments were conducted, whereby informational and pedagogical videos explaining climate impacts and climate policies were shown to a random set of respondents. This allows testing the *causal* impact of information provision on people's support.

The mechanisms by which climate policies reduce emissions can be complex. People may not believe that a policy such as a carbon tax can reduce emissions by inducing a change in behaviour toward cleaner alternatives. For example, in France and Germany – both of which have carbon pricing policies in place – only 40 to 42% of respondents in the control group (which receives no information) believe that a carbon tax would encourage people to use less gasoline. Similarly, people may not believe that a policy such as a carbon tax with cash transfers can actually be progressive. The pedagogical videos clarify that redistributing equally the revenues from a carbon tax would make most low-income households better off.

The study shows that providing information about climate policies – how they work and what impacts they have – does increase public support (Figure 6). Particularly for pricing policies such as carbon taxes, clarifying that higher prices on fossil fuels contribute to reducing emissions and that revenues from a carbon tax can be used to reduce potentially regressive effects and to compensate households and businesses for higher prices substantially increases public support. Therefore, public information and education campaigns to improve knowledge and understanding of climate policies should be an important part of climate policy implementation. This could be done by integrating information into school curricula and disseminating information through multiple media channels.

The perception of costs and negative economic impacts of a carbon tax are particularly high in France, the US, Denmark, the UK and Germany (in this order). In most countries, climate policies are perceived to be regressive. Across all high-income countries, at most one fifth of respondents believes that low-income earners, the middle class and those living in rural areas would gain from a green infrastructure program and a carbon tax with cash transfers. The largest perceived losses relate to the ban on combustion-engine cars, for which 40 to 60% of respondents think that these groups will lose on balance in high-income countries. Overall, respondents are similarly negative about the financial effects of climate policies on their own household as they are about the effects on middle-class or rural households. In high-income countries, less than one fifth of respondents in high-income countries think their own household would financially gain from these policies.

Figure 6. Effects of viewing pedagogical videos on support for climate action



Note: The figure shows the coefficients from a regression of the indicator variables listed on the left, capturing support for various policies and willingness to change behaviours, on indicators for each treatment, controlling for country fixed effects and socio-economic characteristics, i.e., age, gender, income, education, self-reported economic policy leaning (from left to right), and living with a child (controls are not displayed). Source: (Dechezleprêtre et al., 2022[7]).

Information campaigns are likely to be more effective on certain groups of the population whose perceptions of climate policies' impacts differ most from their actual effects. For example, lower income respondents tend to be more pessimistic about climate policies' effectiveness in reducing emissions. In some high-income countries (Australia, Canada, Denmark, France, Germany, the United Kingdom and the United States), older respondents are more likely to think that they or low-income earners will lose. Having a college degree is associated with more optimism about the effectiveness of policies in reducing emissions and less pessimism about the impact on oneself and on lower-income households. In high-income countries, respondents that see themselves as left-leaning on economic policy matters are more likely to believe that policies will have positive economic impacts, that they will reduce emissions, and less likely to believe that they themselves or low-income earners would lose. Some lifestyle and energy usage characteristics are strongly correlated with a more positive outlook on the effectiveness, progressivity, and own financial impacts of climate policies. Having public transportation available, not being car-dependent and not having high gas expenses (conditional on car usage) are associated with a more positive perception of climate policy effectiveness, progressivity and own financial impacts.

Providing information on the expected local impacts of climate change, which vary across countries, increases support for climate policies only marginally. In contrast, providing combined information on climate impacts and climate policies has large impacts on support for climate policies, in particular for a carbon tax with cash transfers, for which support increases by around 30%. Public information campaigns should therefore focus on explaining how climate policies work, specifically carbon pricing, while at the same time emphasising the consequences of unabated climate change and the urgency to act (Figure 6).

The role of information provision

- Explaining to people how climate policies work (how do they reduce emissions? who benefits? who suffers?) is essential to implement publicly supported policies. Conversely, communicating about the impacts of climate change no longer seems necessary, as people already understand these impacts well and see climate change as an important problem that needs to be addressed.
- Information about climate policies' impacts and pedagogical explanation of how climate policies work can increase public support significantly, in particular for carbon pricing policies, if it addresses the three key beliefs about climate policies (perceived effectiveness, inequality concerns, self-interest).

Next steps

This study shows that informing people about the impacts of climate policies is key to increasing support for climate policies. Providing this information requires detailed, country- and policy-specific analyses on the effectiveness and distributional impacts of climate policies. Existing evidence is incomplete and limited to a few policies and countries. Systematic collection of data on affected users, embedding policy evaluation into the design of climate policies and carrying out empirical policy impact evaluations are therefore a critical complement to this study to enable policymakers to communicate more effectively about the effects of climate policies.

References

Boone, L. and A. Elgouacem (2021), *At the cross-roads of a low-carbon transition: what can we learn from the current energy crisis?*, https://oecdecoscope.blog/2021/10/22/at-the-cross-roads-of-a-low-carbon-transition-what-can-we-learn-from-the-current-energy-crisis/. [8]

Climate Action Tracker (2021), *Warming Projections Global Update*, https://climateactiontracker.org/documents/853/CAT_2021-05-04_Briefing_Global-Update_Climate-Summit-Momentum.pdf. [4]

D'Arcangelo, F. et al. (2022), "A framework to decarbonise the economy", *OECD Economic Policy Papers*, No. 31, OECD Publishing, Paris, https://dx.doi.org/10.1787/4e4d973d-en. [5]

Dechezleprêtre, A. et al. (2022), "Fighting Climate Change: International Attitudes Toward Climate Policies", *OECD Economics Department Working Paper*. [7]

IPCC (2022), *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, https://www.ipcc.ch/report/ar6/wg2/about/how-to-cite-this-report/. [2]

IPCC (2021), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change Summary for Policymakers*, https://www.ipcc.ch/report/ar6/wg1/#SPM. [3]

NOAA (2021), *State of the Climate: Global Climate Report for Annual 2021*, https://www.ncdc.noaa.gov/sotc/global/202113. [1]

OECD (2021), *Economic Policy Reforms 2021: Going for Growth: Shaping a Vibrant Recovery*, OECD Publishing, Paris, https://dx.doi.org/10.1787/3c796721-en. [6]

OECD (2022), "Fighting Climate Change: International Attititudes toward Climate Policies", *OECD Economics Department Working Papers*, No. 1714, OECD Publishing, Paris.