

# Climate survey - France

Antoine Dechezleprêtre, Adrien Fabre, Blueberry Planterose, Stefanie Stantcheva

OECD/CAE

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## Motivation

Climate policies have been difficult to pass.

The design of climate policies needs to account for the political economy and public acceptability.

Resistance to climate policies arises largely from:

Legitimate concerns about distributional and lifestyle impacts

Misconceptions about the impacts of climate change and the effects of climate policies on the economy and the environment

Addressing concerns and misconceptions may be difficult, as they are influenced by personal attributes, country specificities and political views.

## An international survey

Large-scale cross-country survey to analyse attitudes on climate change and climate policies.

Wide country coverage:

16 countries in all world regions, low-income as well as high-income,

covering two-thirds of global CO<sub>2</sub> emissions, including 16 out of the 21 largest polluters.

## **Method: Large-scale Social Economics Surveys and Experiments**

### **Surveys are a key tool:**

Some things can not be seen in other data, no matter how good it is: Perceptions, attitudes, knowledge, views.

Revealed preference with observational data has limits (data and assumptions required).

Unlike old-style surveys (that measure variables now better captured in admin data) or opinion polls (less rigorous, often partial, without randomized treatments).

New generation surveys: Customizable, controllable, interactive.

Here:  $\approx$  2,000 respondents per survey, broadly representative of the country, done through commercial survey companies.

## Improvements upon existing research

**Wide scope:** past surveys are typically limited to a single (developed) country, focus on carbon pricing, and existing international surveys include only very general questions.

For reviews of existing studies: Carattini et al. 2018, Drews and van den Bergh, 2016

**Cross-country comparability:** having an international questionnaire informs whether differences in people's attitudes are driven by survey characteristics (e.g. format and phrasing) or by true cross-country differences.

**Incentive compatibility:** we offer an incentive relying on an actual payment and propose tangible actions.

**Causal evidence:** we document effects of informational treatments in a video format, whereas cross-country evidence remains largely descriptive and national surveys use less effective treatments.

## Informational treatments

Treatments consist in one or two 2–5 min video either informing the respondent about **three main climate policies**, or detailing the **impacts of climate change in their country**.

**Goal:** understand **how perceptions may change after receiving new information** on the effects of policies/climate change (in a video format) and how it translates into policy support.

Will contribute to ongoing academic debate on importance of information for the acceptance of climate policies (e.g. Kahan, 2015; Sunstein et al., 2017):

What do people really learn when information is provided?

Do they accept the info or can it backfire?

How does the effect interact with political values, previous knowledge, socio-demographics, country?

# Questionnaire

# Questionnaire

## **Background of respondent:**

Socio-demographics, political views, energy use, consumption habits.

# Questionnaire

## Background of respondent:

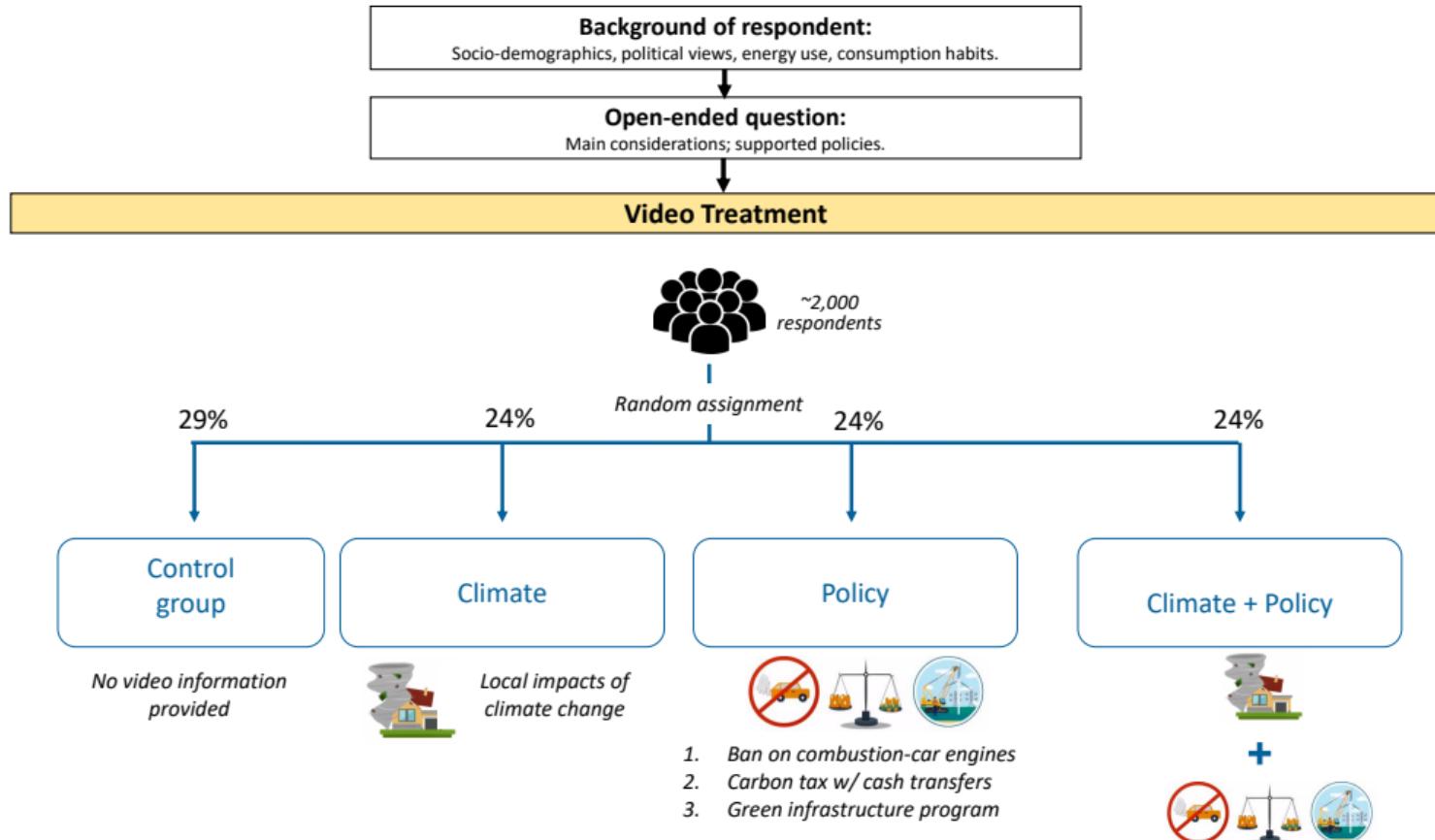
Socio-demographics, political views, energy use, consumption habits.



## Open-ended question:

Main considerations; supported policies.

# Questionnaire



# Questionnaire

## Local climate impact



With the mix of more hurricanes, rising sea levels, more heatwaves, and lower agricultural output

## Green infrastructure program



In the US, such a programme could create 4 million jobs in green sectors, such as public transportation, renewable power plants, buildings' insulation, or sustainable agriculture.

## Ban on combustion-engine cars



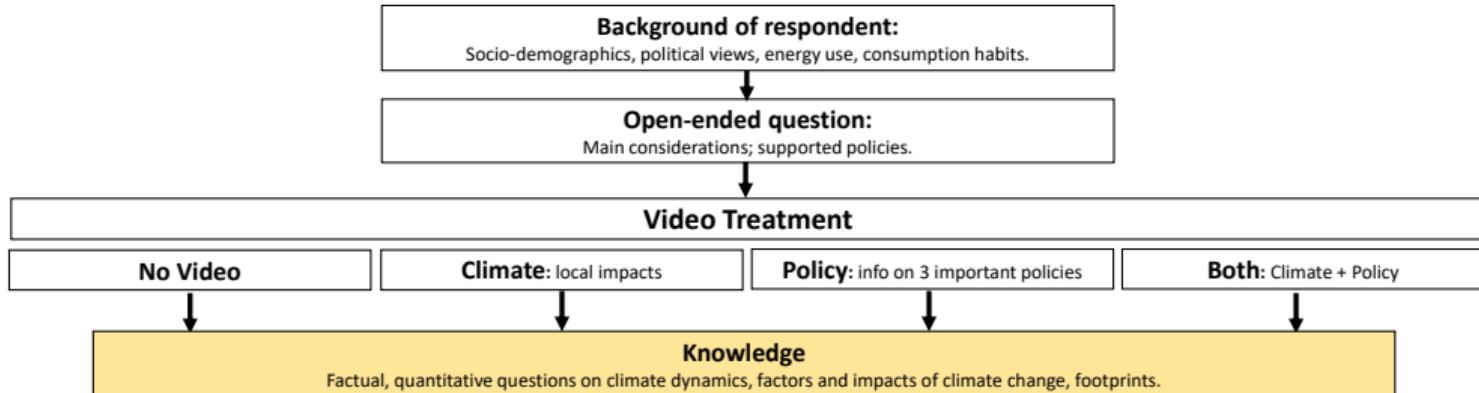
so that only electric or hydrogen vehicles can be sold after 2030.

## Carbon tax with cash transfers



To compensate people for the higher prices, the revenues of the carbon tax would be redistributed to all households, regardless of their income.

# Questionnaire



What part of climate change do you think is due to human activity?

None

A little

Some

A lot

Most

Which source of electric energy emits the most greenhouse gases to provide power for a house?

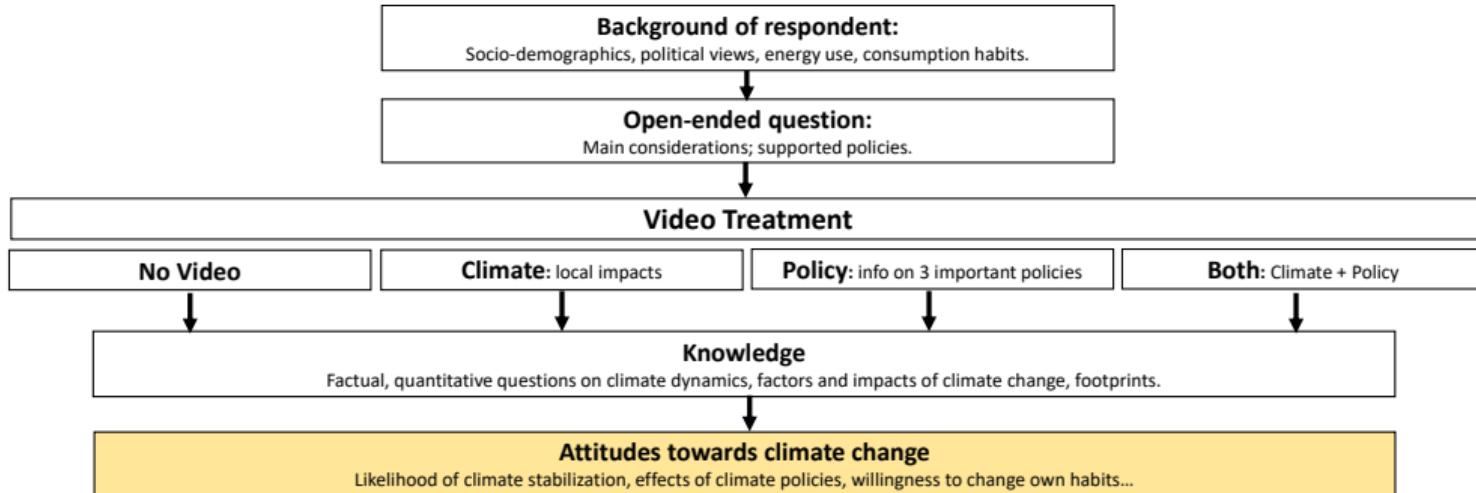
*Please rank the items from 1 (most) to 3 (least) (by clicking and dragging the items).*

Gas-fired power plant

Nuclear power plant

Coal-fired power station

# Questionnaire



Do you support or oppose a ban on combustion-engine cars where alternatives such as public transports are made available to people?

Strongly  
oppose

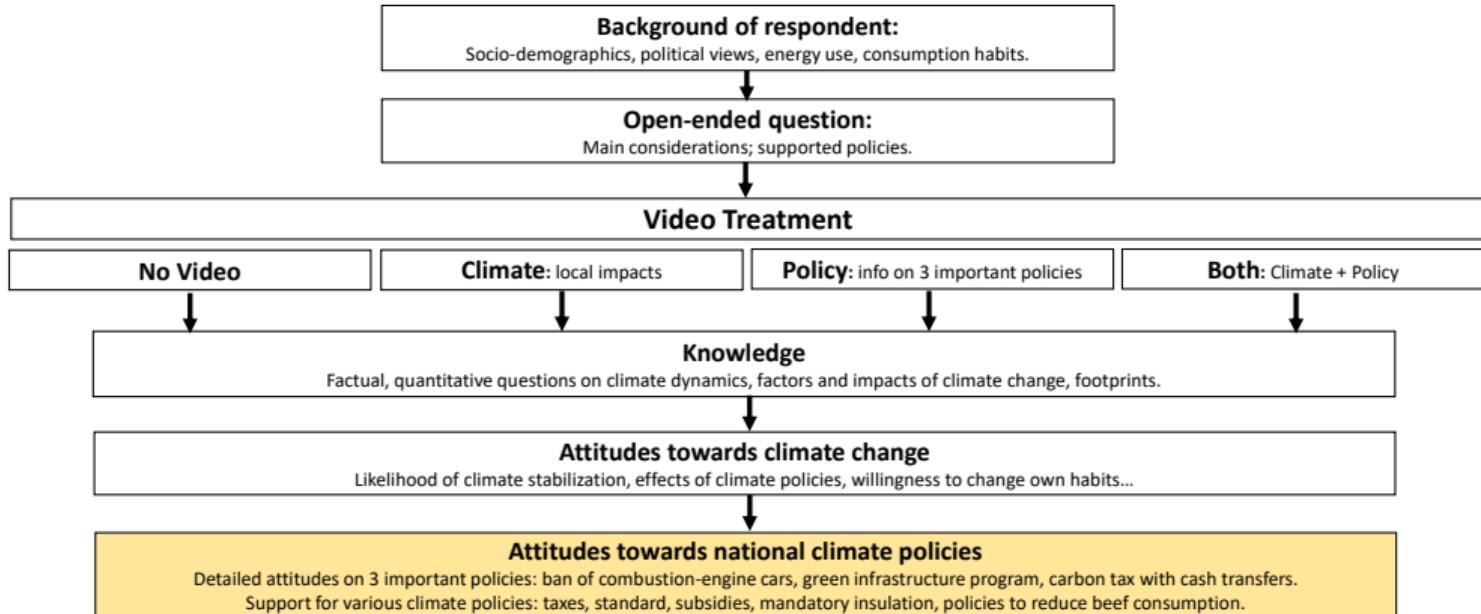
Somewhat  
oppose

Neither  
support nor  
oppose

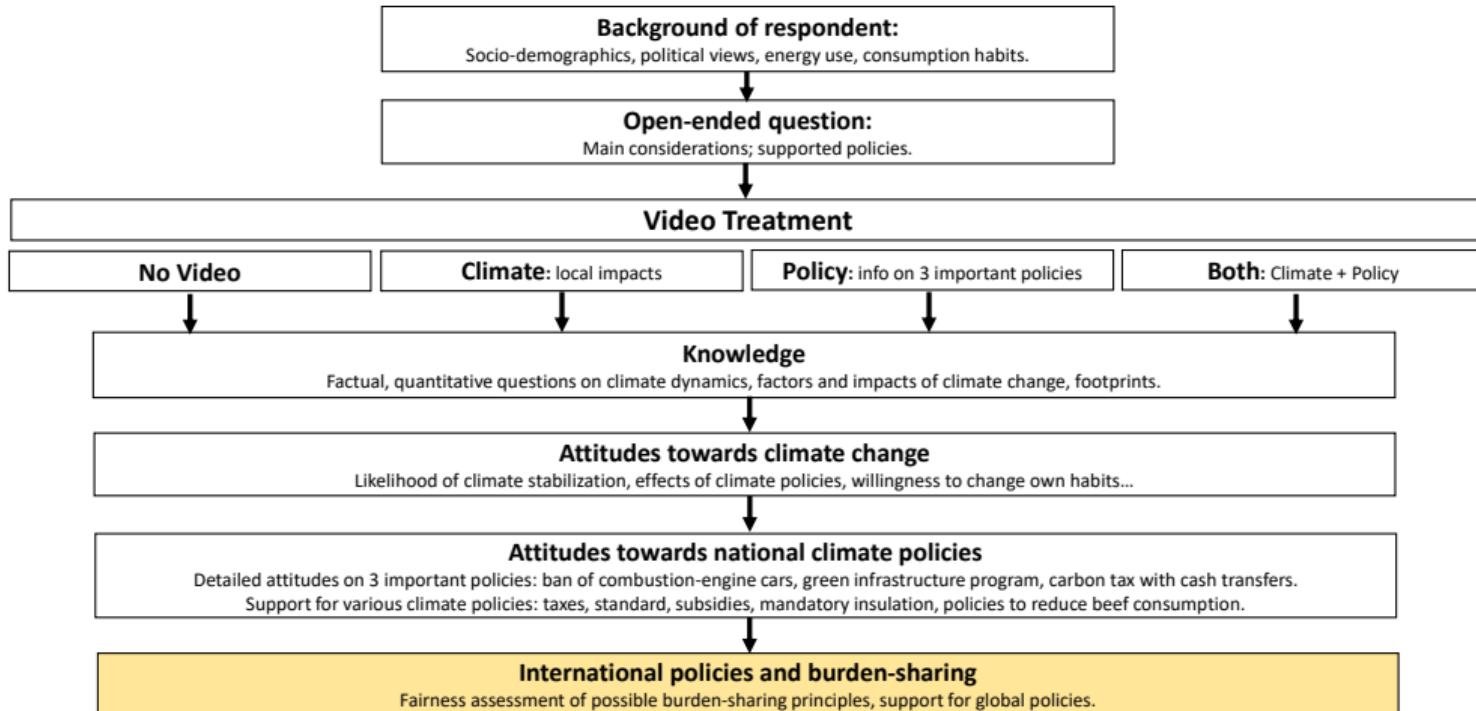
Somewhat  
support

Strongly  
support

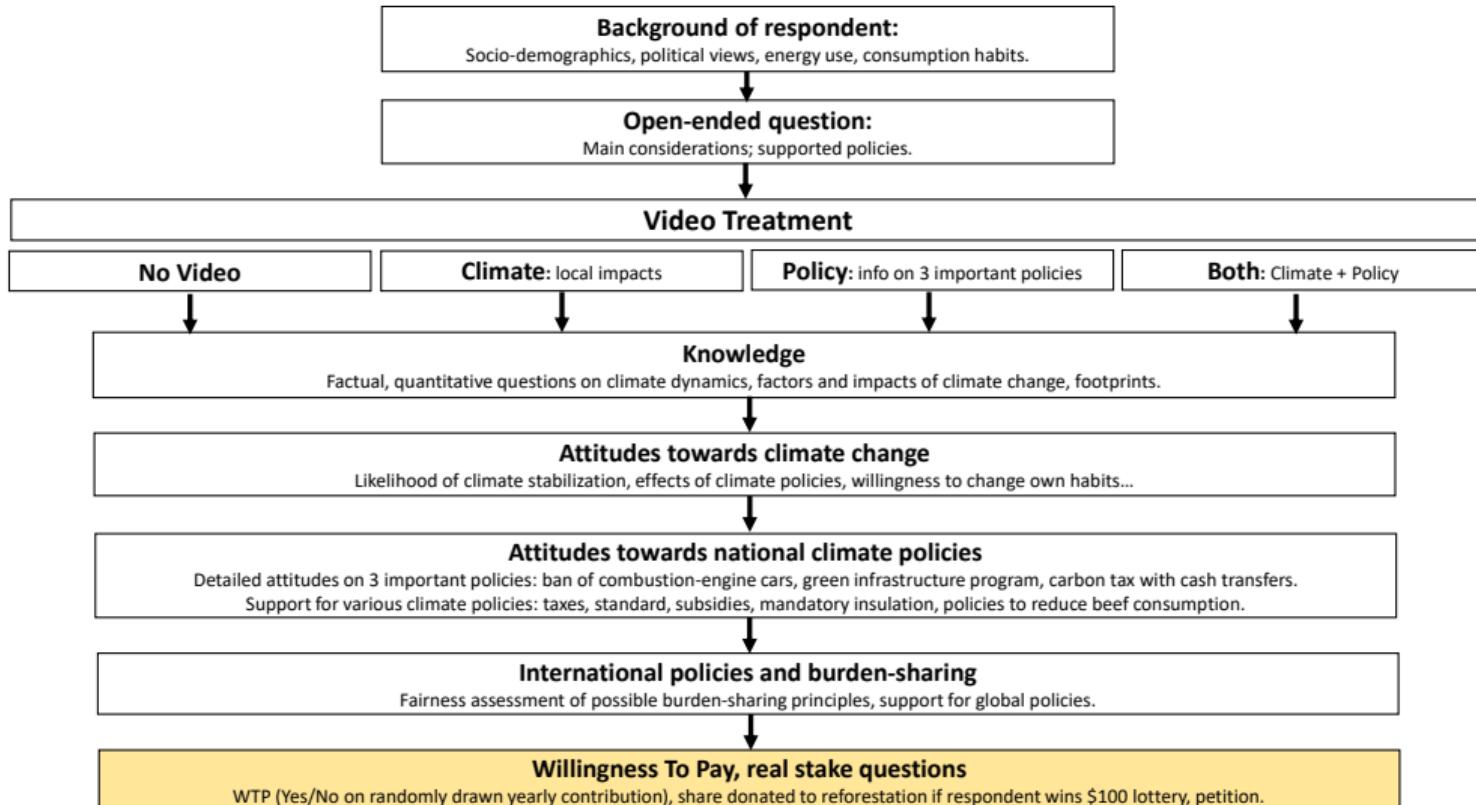
# Questionnaire



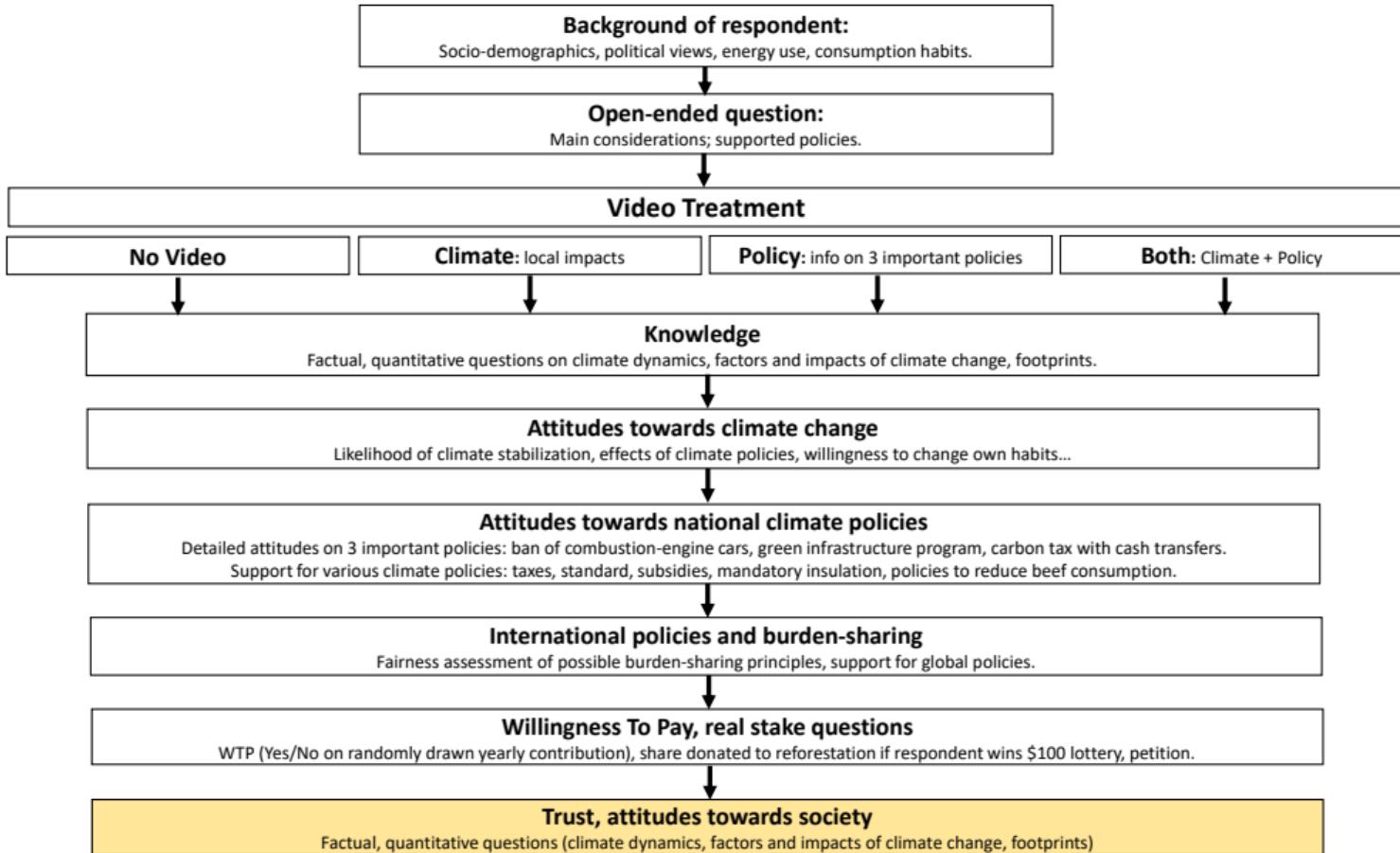
# Questionnaire



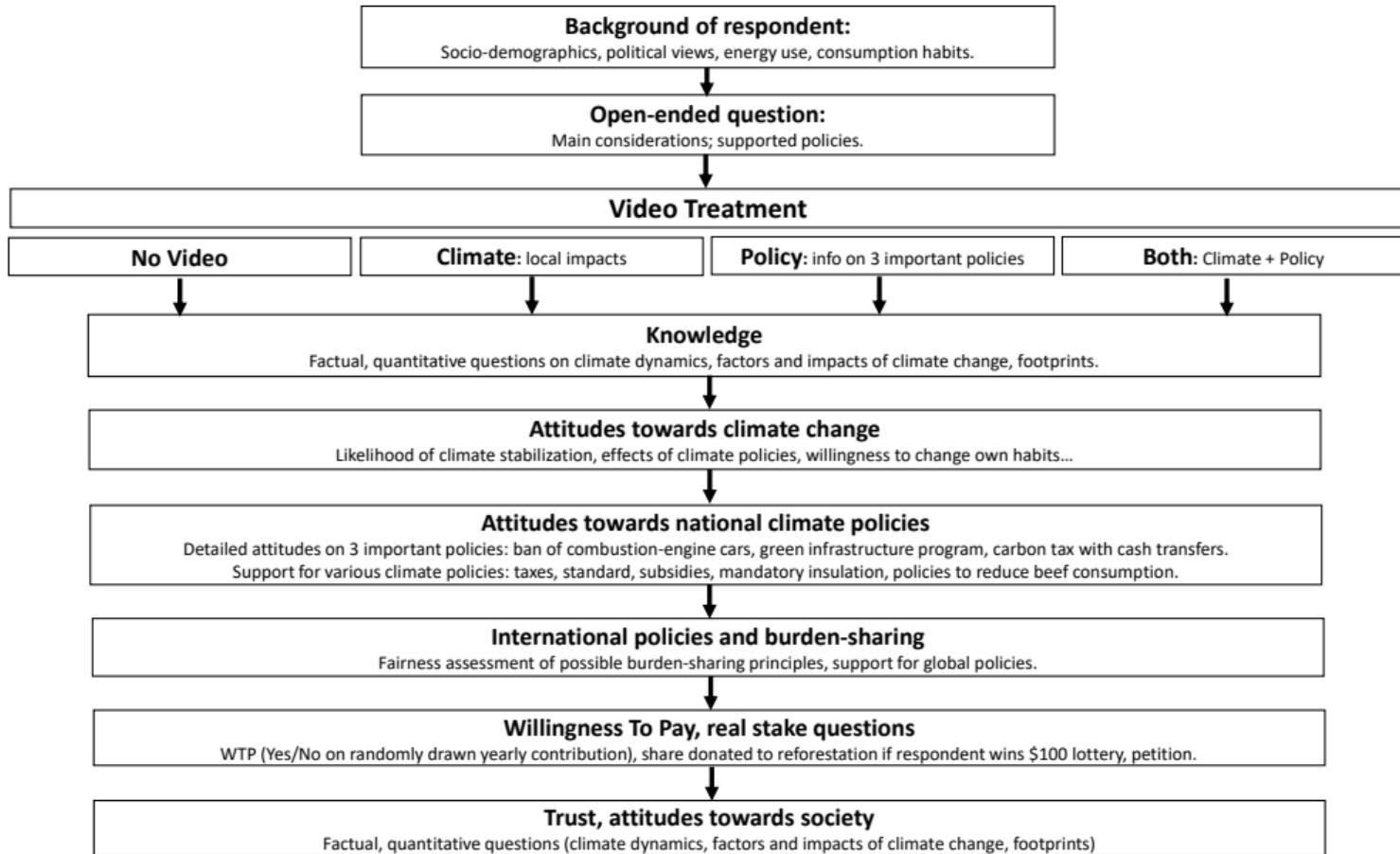
# Questionnaire



# Questionnaire



# Questionnaire



# Sample quality

## Ensuring data quality

2,006 respondents selected through quotas that ensure representativeness along:  
gender, age, income, region, diploma, urban/rural.

All results are re-weighted along quota variables (except rural/urban) to increase representativeness even further.

Screening question in the middle of the survey.

Appeal to people's social responsibility.

Warn that “incoherent and rushed responses” (< 11 min) are dismissed and disqualified for monetary compensation.

Record of time spent on separate questions & overall survey (median: 27 min).

Ask for feedback post survey, whether felt survey was biased (78% find it unbiased).

## Representativeness of the Survey Sample

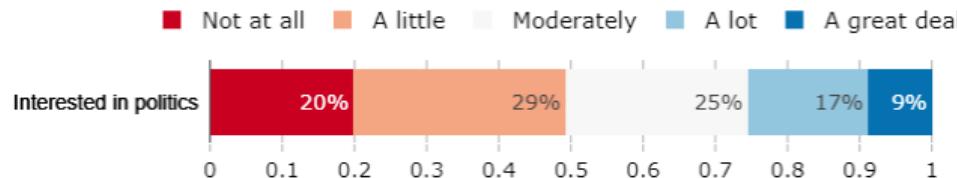
	Raw Sample	Weighted Sample	Population
Sample size	2,006	2,006	
Male	0.44	0.49	0.48
18-24 years old	0.10	0.12	0.12
25-34 years old	0.15	0.15	0.15
35-49 years old	0.25	0.24	0.24
50-54 years old	0.25	0.24	0.24
More than 65 years old	0.25	0.25	0.25
Income Q1	0.31	0.26	0.25
Income Q2	0.31	0.26	0.25
Income Q3	0.23	0.25	0.25
Income Q4	0.14	0.23	0.25
Île de France	0.19	0.19	0.19
Nord-Ouest	0.22	0.20	0.20
Nord-Est	0.24	0.22	0.22
Sud-Ouest	0.15	0.14	0.14
Sud-Est	0.20	0.25	0.25
Grand Pôle Urbain	0.59	0.59	0.60
Couronne Grand Pôle Urbain	0.20	0.20	0.18
Autre	0.21	0.21	0.22

# Descriptive statistics

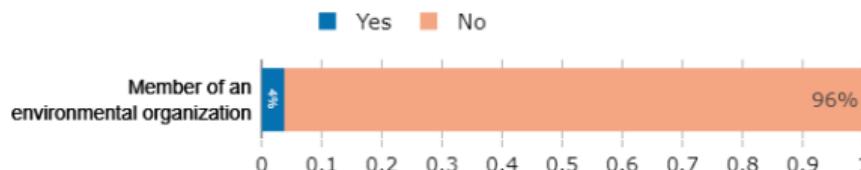
# Political Views

# Interest in politics and environmental organizations

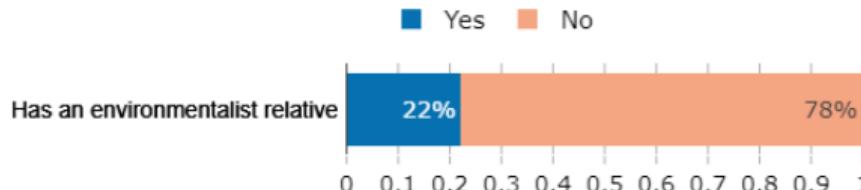
To what extent are you interested in politics?



Are you member of an environmental organization?



Do you have any relatives who are environmentalists?

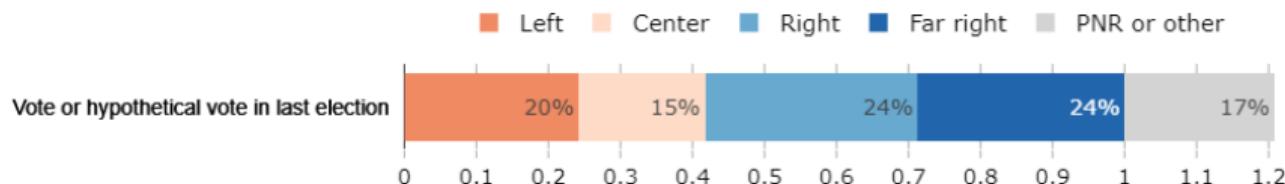


# Presidential election vote

Did you vote in the 2020 French presidential election?

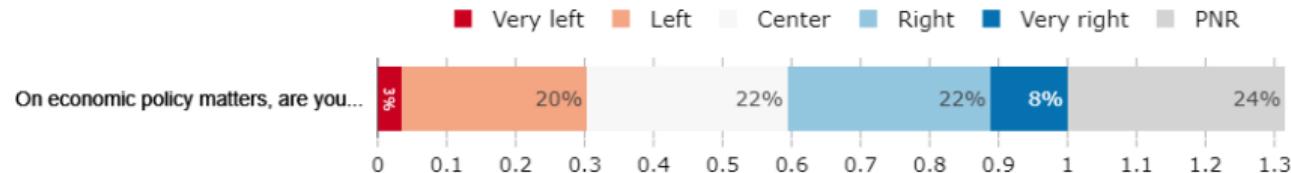


Which candidate did you vote / would you have voted for in the last presidential election?



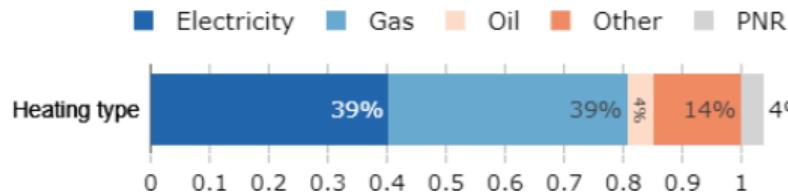
# Political affiliation

On economic policy matters, where do you see yourself on the left/right spectrum?

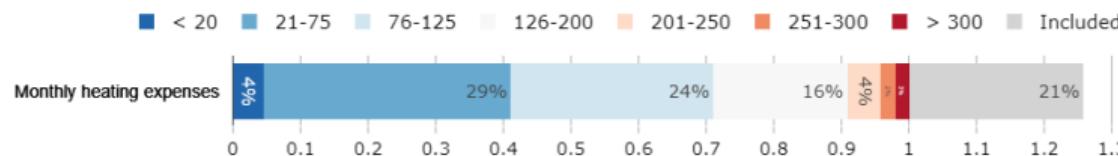


# Household Composition and Energy Characteristics

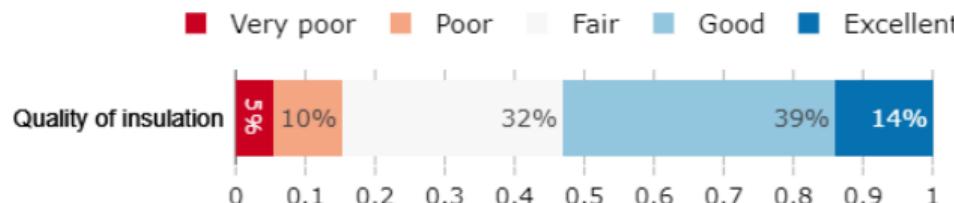
## What is the main way you heat your home



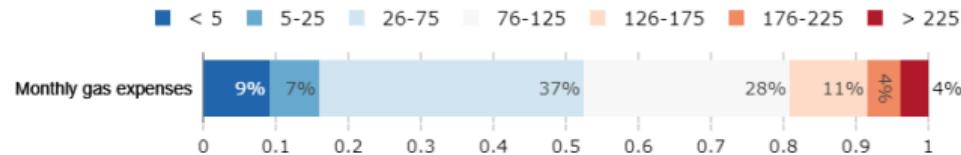
In a typical month, how much do you spend on heating for your accommodation (in €)?



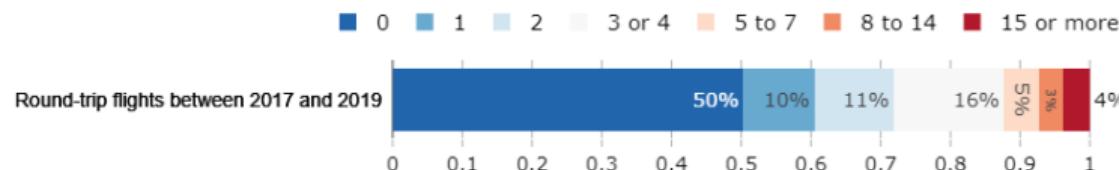
How do you rate the insulation of your accommodation?



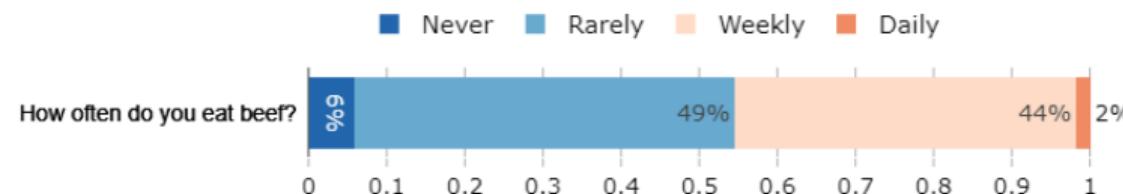
In a typical month, how much do you spend on gas for driving (in €)?



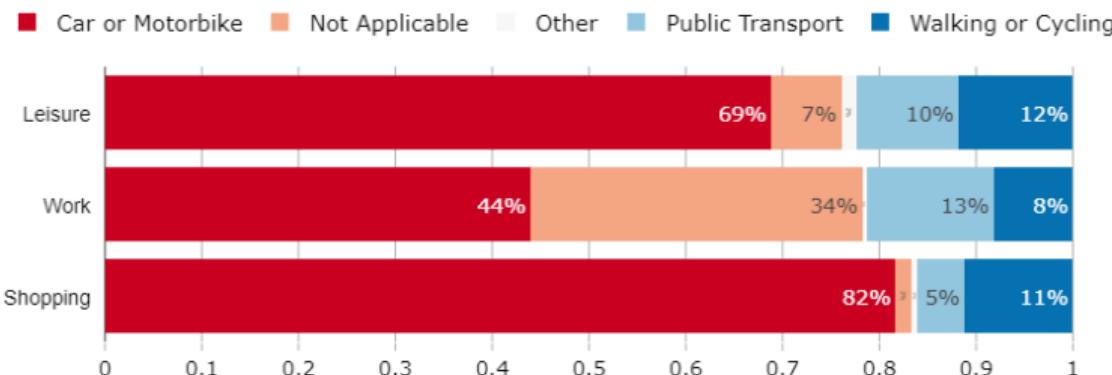
How many round-trip flights did you take between 2017 and 2019?



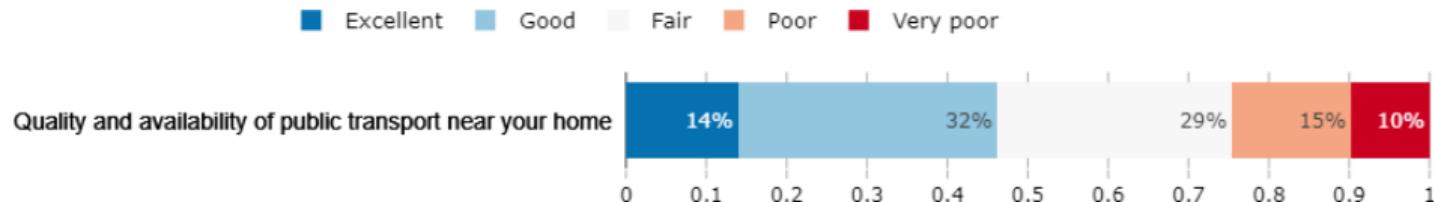
How often do you eat beef?



Which mode of transport did you mainly use for each of the following trips in 2019?



How do you rate the availability (ease of access and frequency) of public transportation where you live?



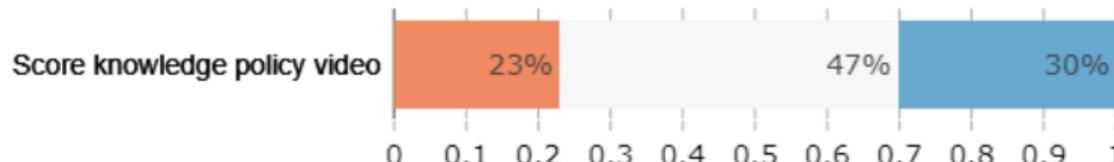
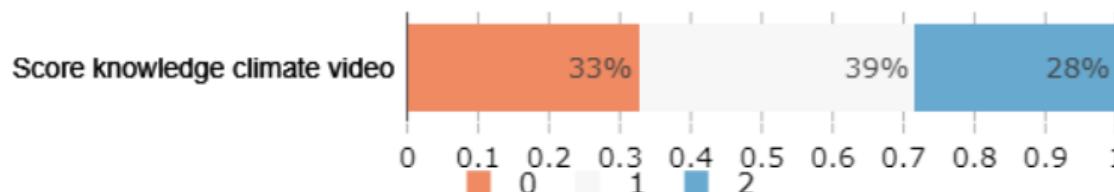
# Treatments

## Watched climate and/or policy videos attentively

Number of wrong answers when answering knowledge questions about the content of the videos

- What will be the rise in global average temperature in 2100 if greenhouse gas emissions continue on their current trend?
- In the absence of ambitious action against climate change, how frequent will extreme temperatures occur across the French by the end of the century?
- What is the emission limit described in the video?
- How would a green infrastructure program be financed?

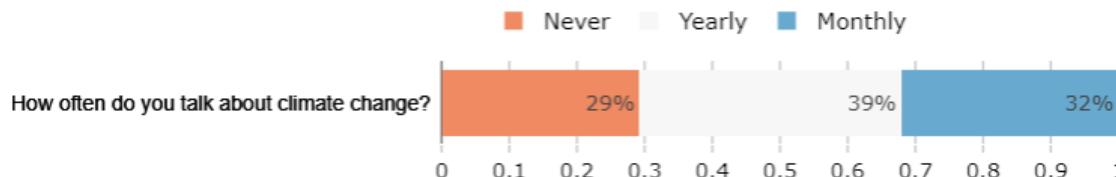
■ 0 ■ 1 ■ 2



# Climate Knowledge

# Climate change knowledge: general

How often do you think or talk with people about climate change?

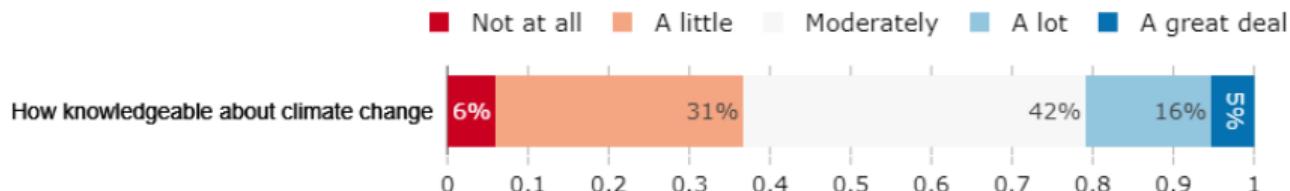


What part of climate change do you think is due to human activity?

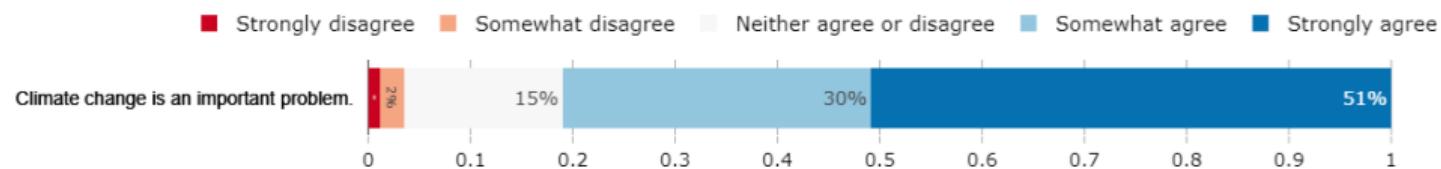


# Climate change knowledge: general

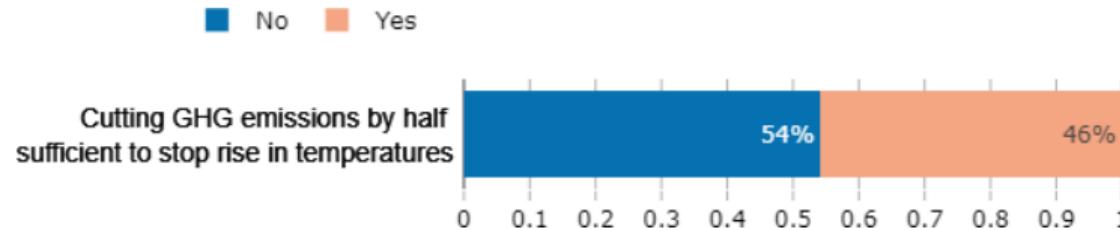
How knowledgeable do you consider yourself about climate change?



Do you agree or disagree with the following statement: "Climate change is an important problem."

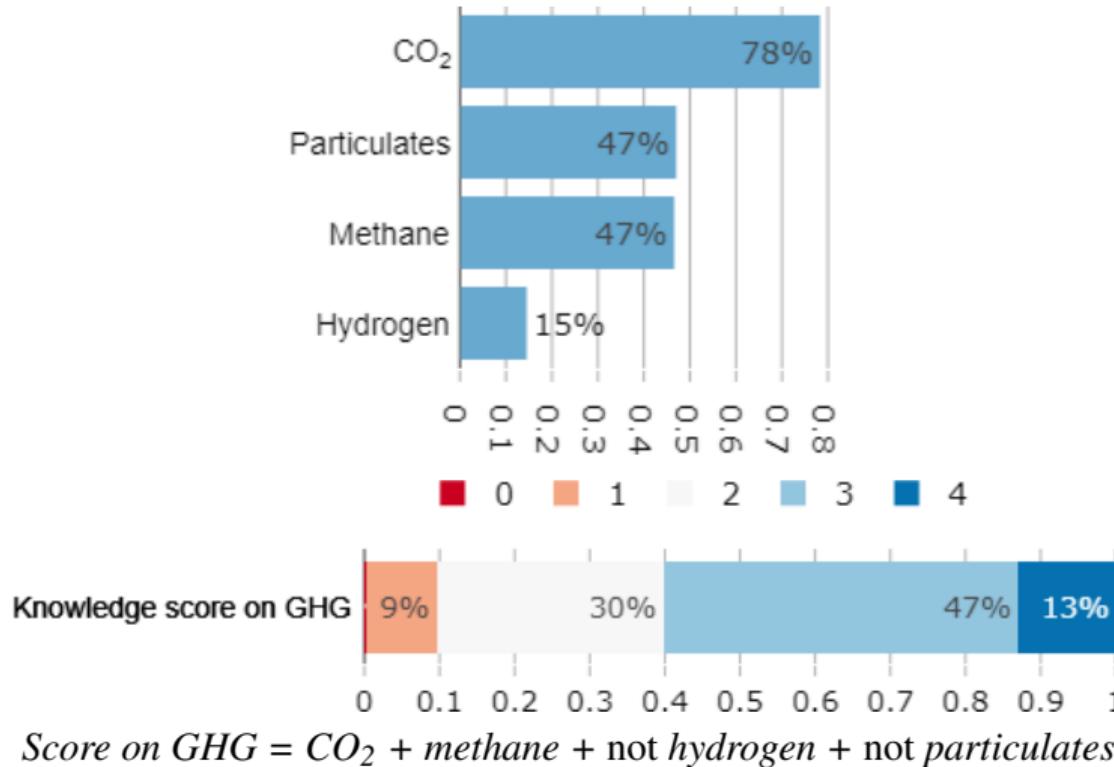


Do you think that cutting global greenhouse gas emissions by half would be sufficient to eventually stop temperatures from rising? (Right answer: No)



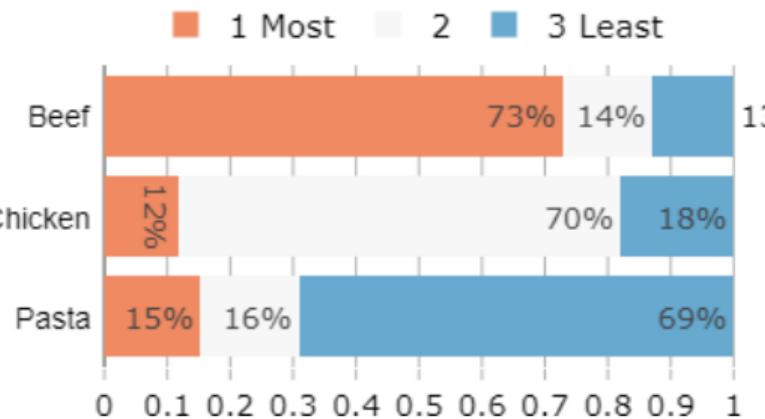
## Climate change knowledge: general

Which of the following elements contribute to climate change? (Multiple answers are possible)

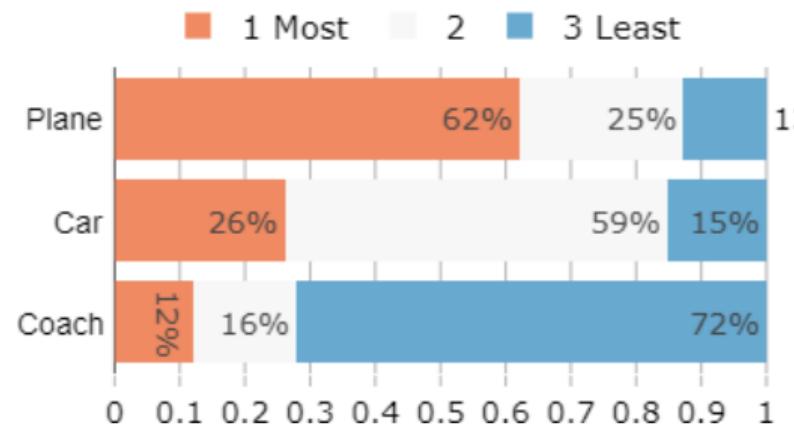


# Climate change knowledge

Which dish emits the most greenhouse gases? We consider that each dish weighs half a pound. Please rank the items from 1 (most) to 3 (least).

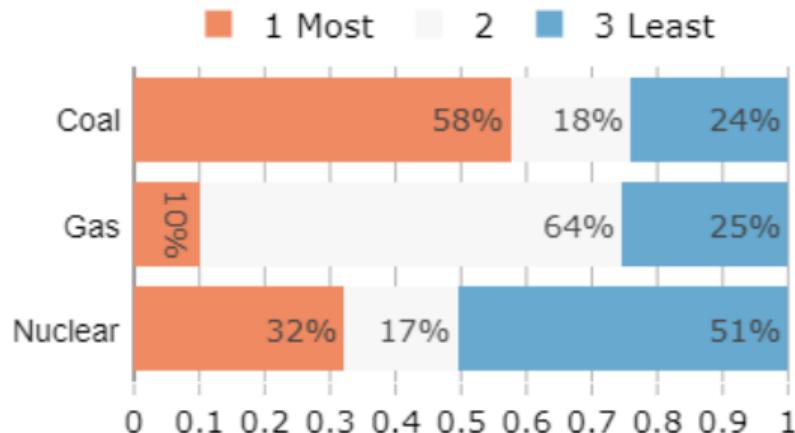


If a family of 4 travels 800 km from Bordeaux to Nice, with which mode of transportation do they emit the most greenhouse gases? Please rank the items from 1 (most) to 3 (least).



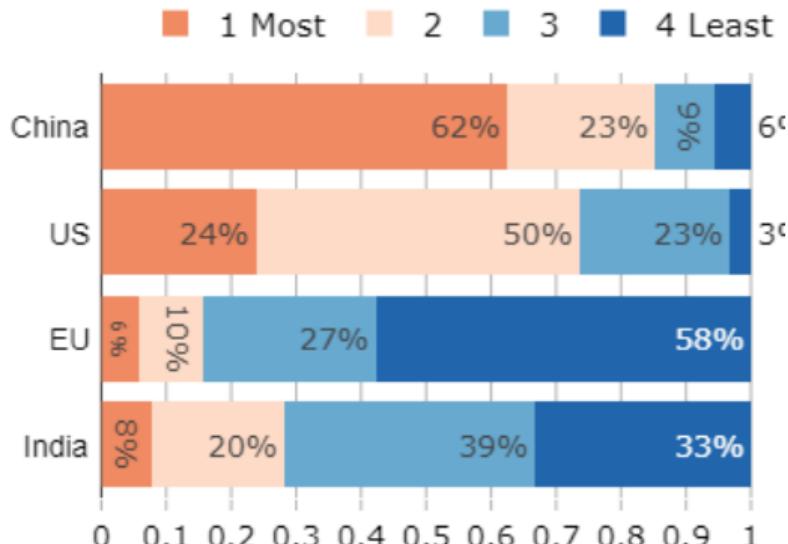
# Climate change knowledge

Which source of electric energy emits the most greenhouse gases to provide power for a house?

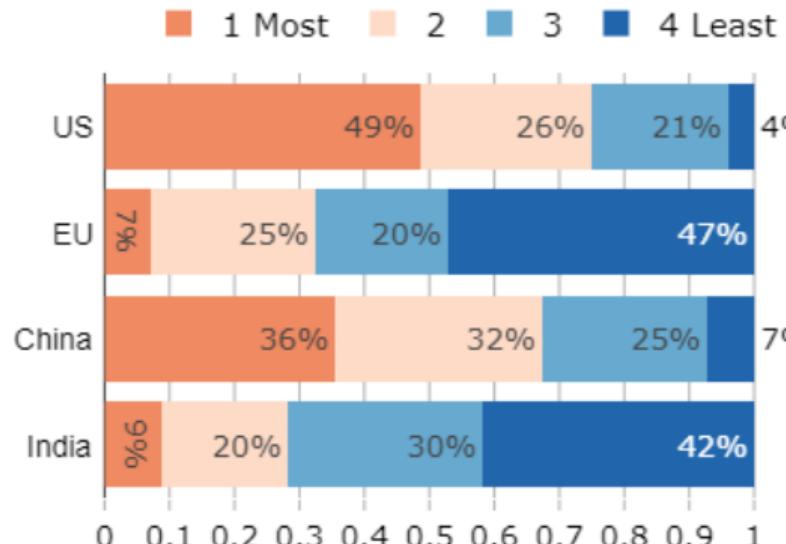


# Climate change knowledge

(a) Which region contributes most to global greenhouse gas emissions?

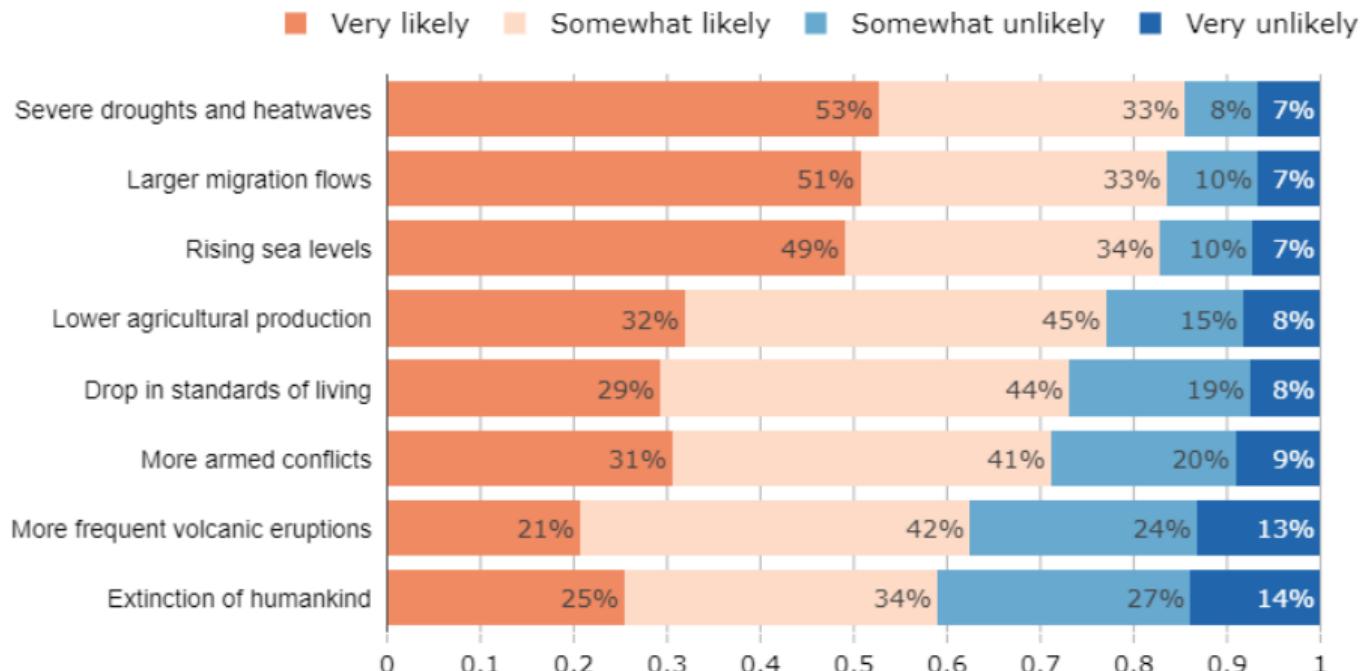


(b) In which region does the consumption of an average person contribute most to climate change?



# Impacts of climate change

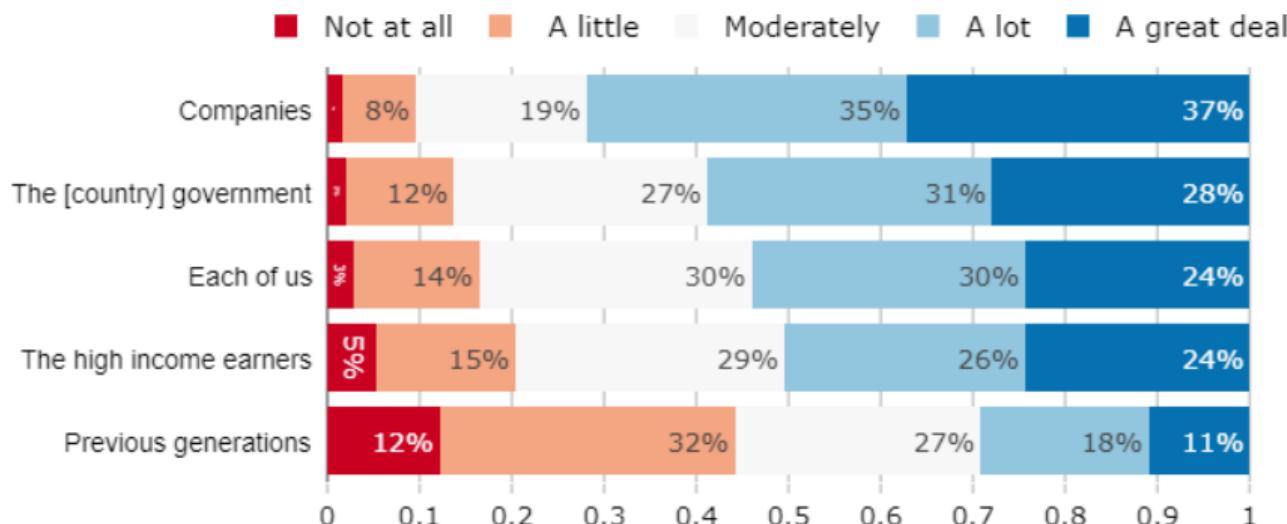
If nothing is done to limit climate change, how likely do you think it is that climate change will lead to the following events?



# Climate Attitudes

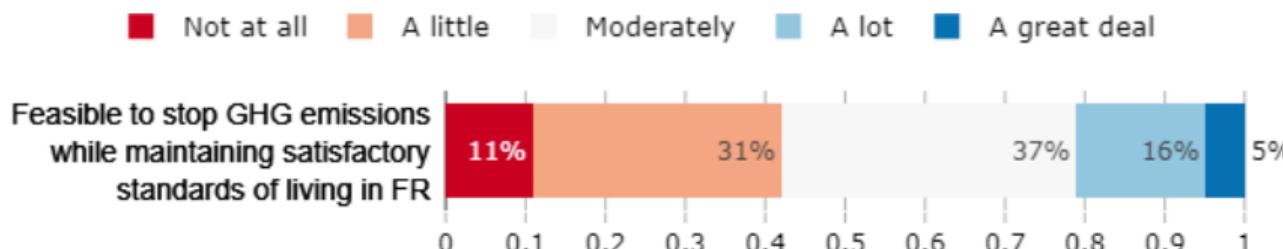
# Attitudes and risks

To what extent are the following groups responsible for climate change in France?

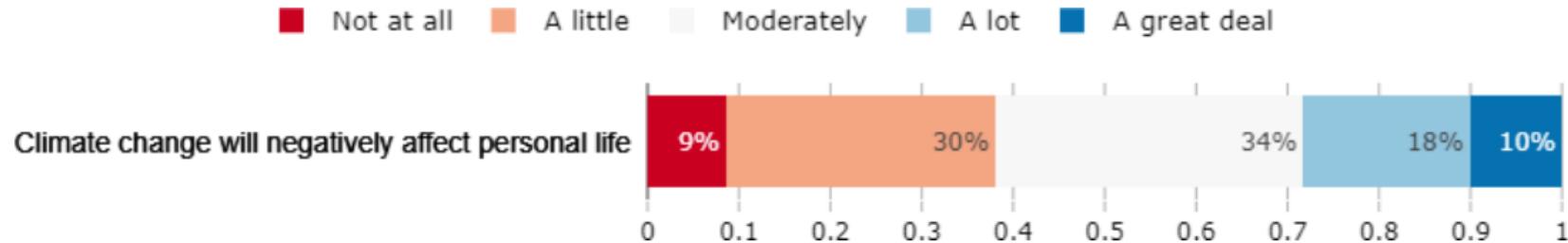


## Beliefs about the future

To what extent do you think that it is technically feasible to stop greenhouse gas emissions while maintaining satisfactory standards of living in France?

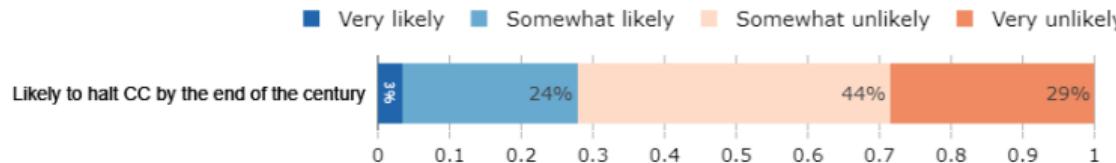


To what extent do you think climate change already affects or will negatively affect your personal life?

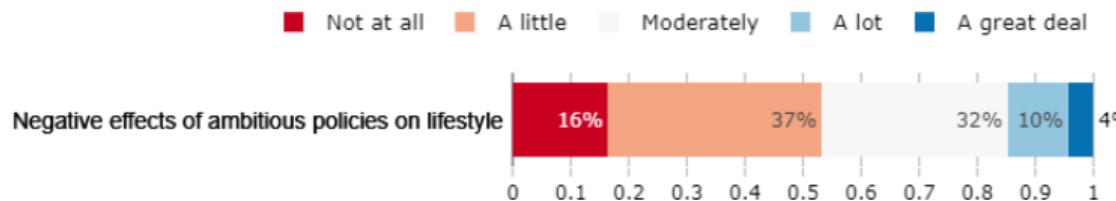


# Beliefs about ambitious climate policies

How likely is it that human kind halt climate change by the end of the century?



If we decide to halt climate change through ambitious policies, to what extent do you think it would negatively affect your lifestyle?

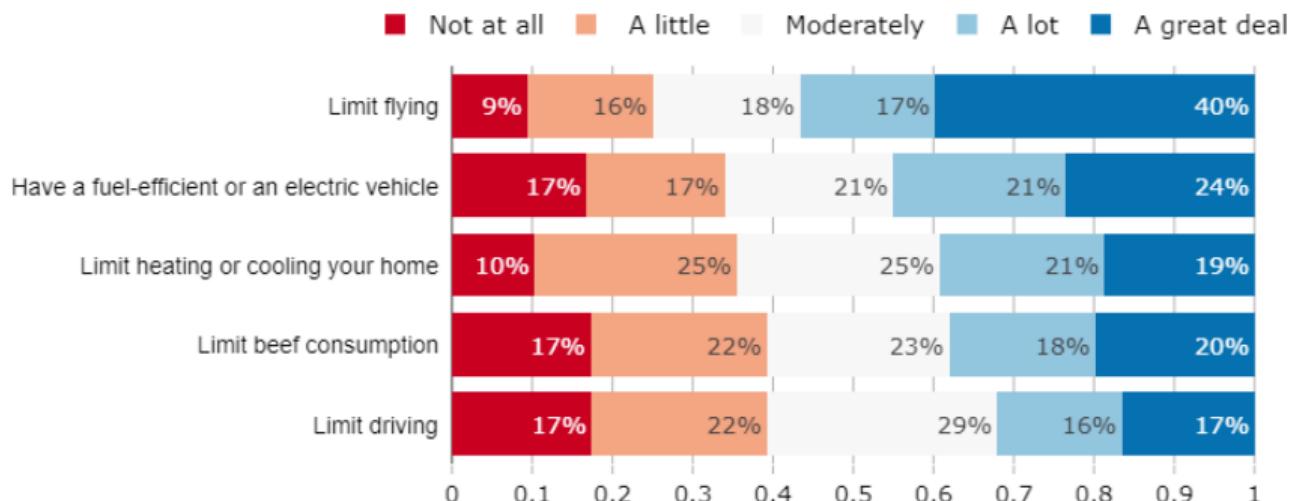


If we decide to halt climate change through ambitious policies, what would be the effects on the French economy and employment?



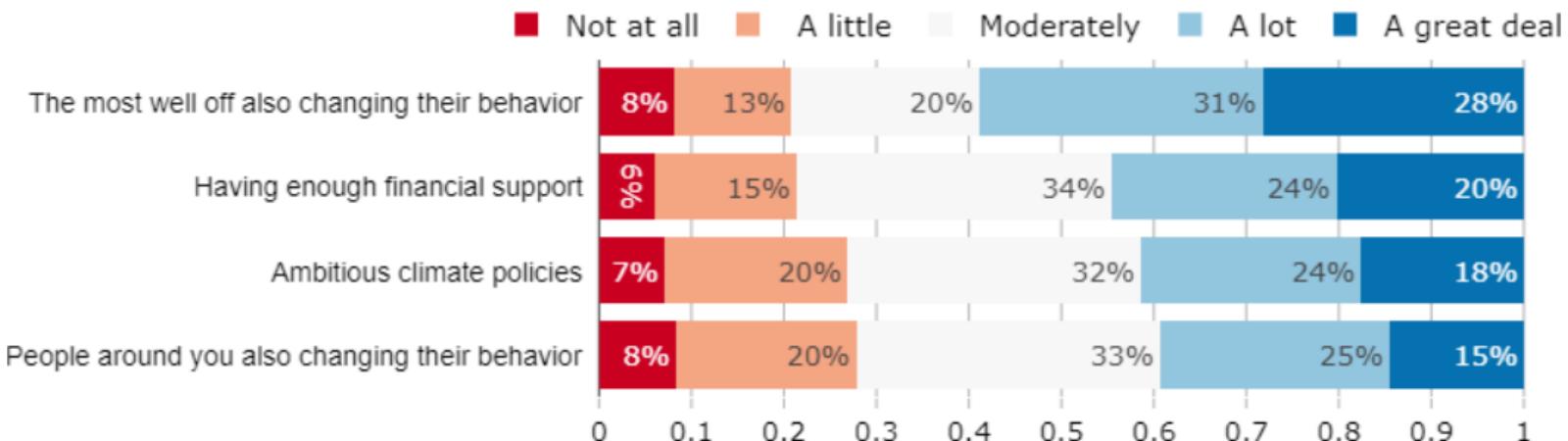
## Willingness to change behaviors

Here are possible habits that experts say would help reduce greenhouse gas emissions. To what extent would you be willing to adopt the following behaviors?



## Factors needed to change lifestyle

How important are the factors below in order for you to adopt a sustainable lifestyle (i.e. limit driving, flying, and consumption, cycle more, etc.)?



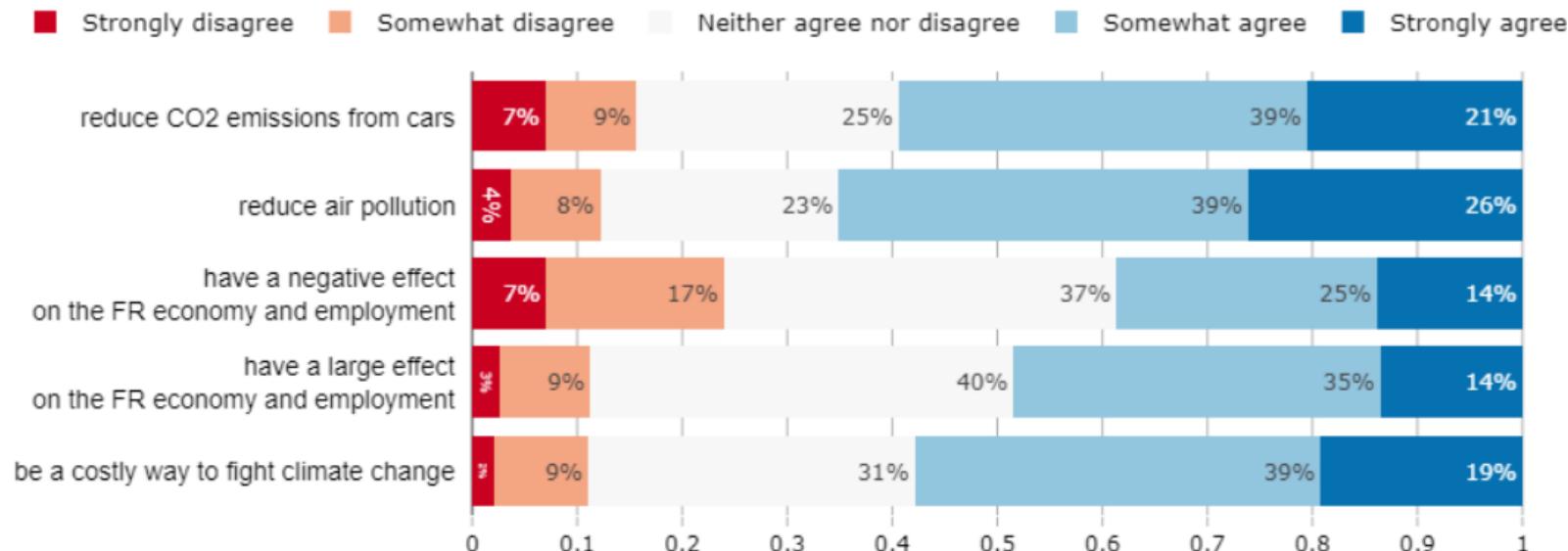
## Policy 1: A ban on combustion-engine Cars

## Policy description

To fight climate change, car producers can be required by law to produce cars that emit less CO<sub>2</sub> per mile of the cars they sell. The emission limit is lowered every year so that only electric or hydrogen vehicles can be sold after 2030. This policy is called a *ban on combustion-engine cars*.

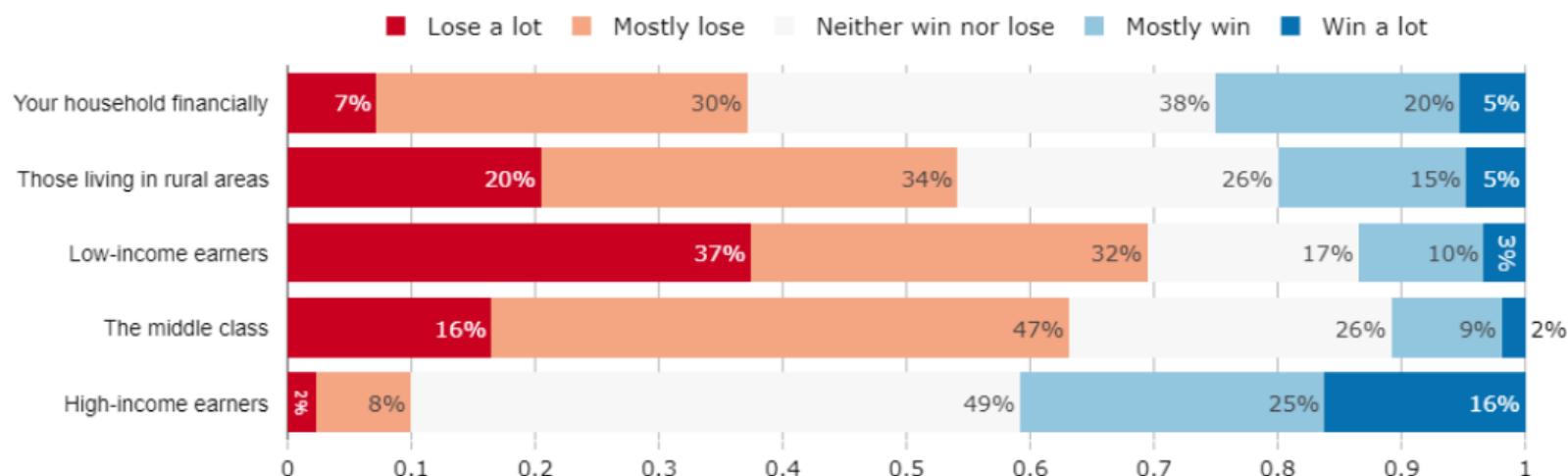
# Effects of the policy

Do you agree or disagree with the following statements? A ban on combustion-engine cars would...



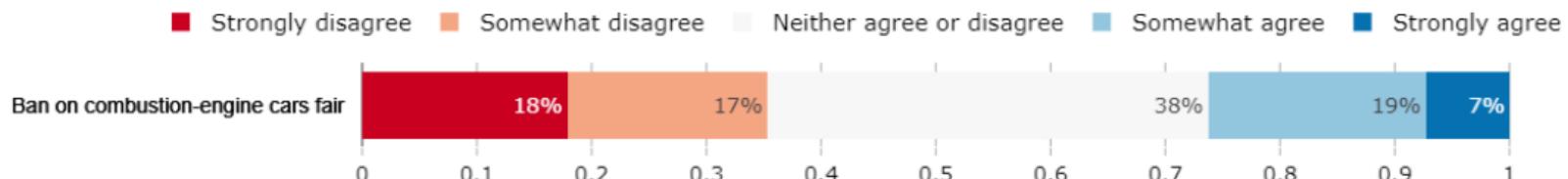
# Incidence

In your view, would the following groups win or lose if a ban on combustion-engine cars was implemented in France?

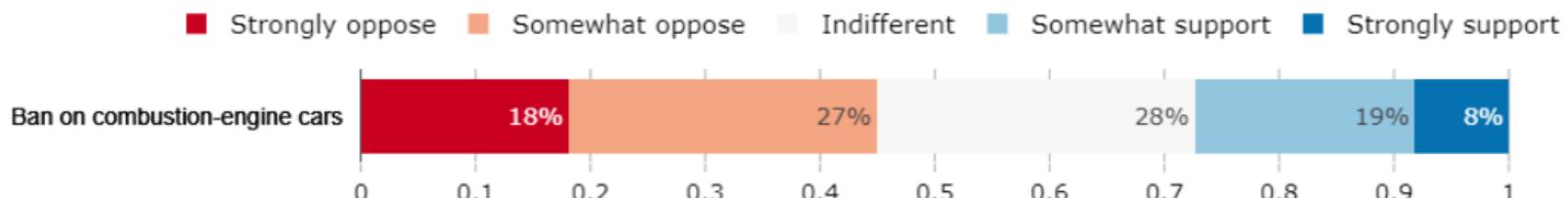


# Fairness and support

Do you agree or disagree with the following statement: "A ban on combustion-engine cars is fair"?

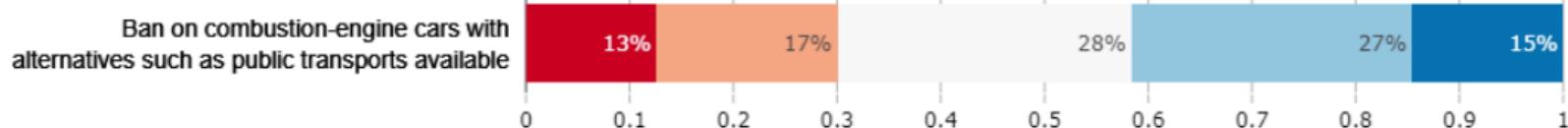


Do you support or oppose a ban on combustion-engine cars?



Do you support or oppose a ban on combustion-engine cars where alternatives such as public transports are made available to people?

■ Strongly oppose ■ Somewhat oppose ■ Indifferent ■ Somewhat support ■ Strongly support



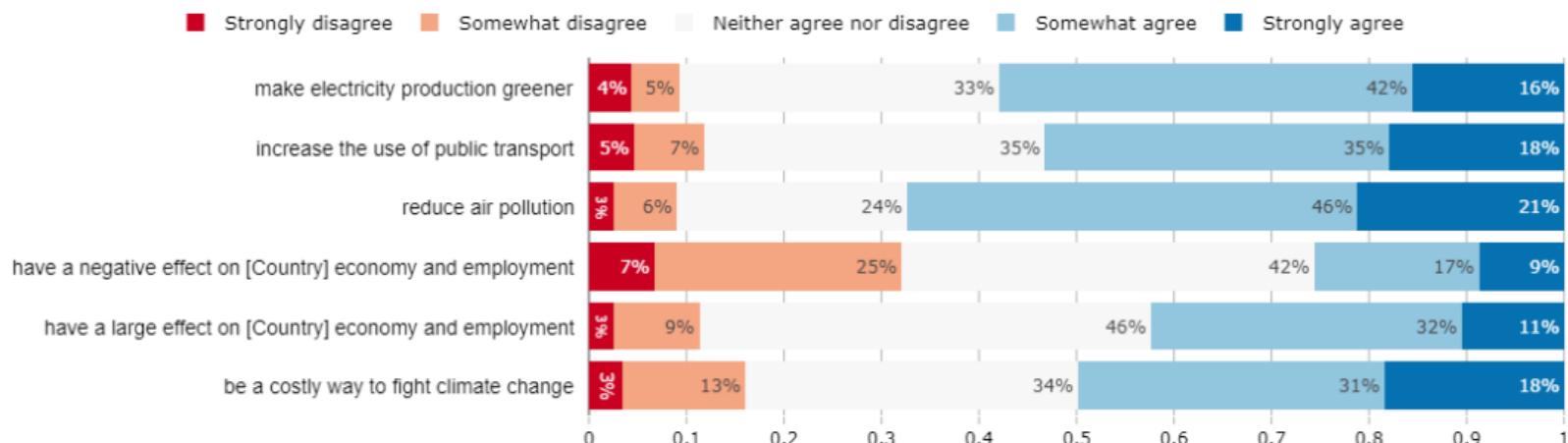
## Policy 2: Green Infrastructure Program

## **Policy description**

A green infrastructure program is a large public investment program, which would be financed by additional public debt, to accomplish the transition needed to cut greenhouse gases emissions. Investments would concern renewable power plants, public transportation, thermal renovation of building, and sustainable agriculture.

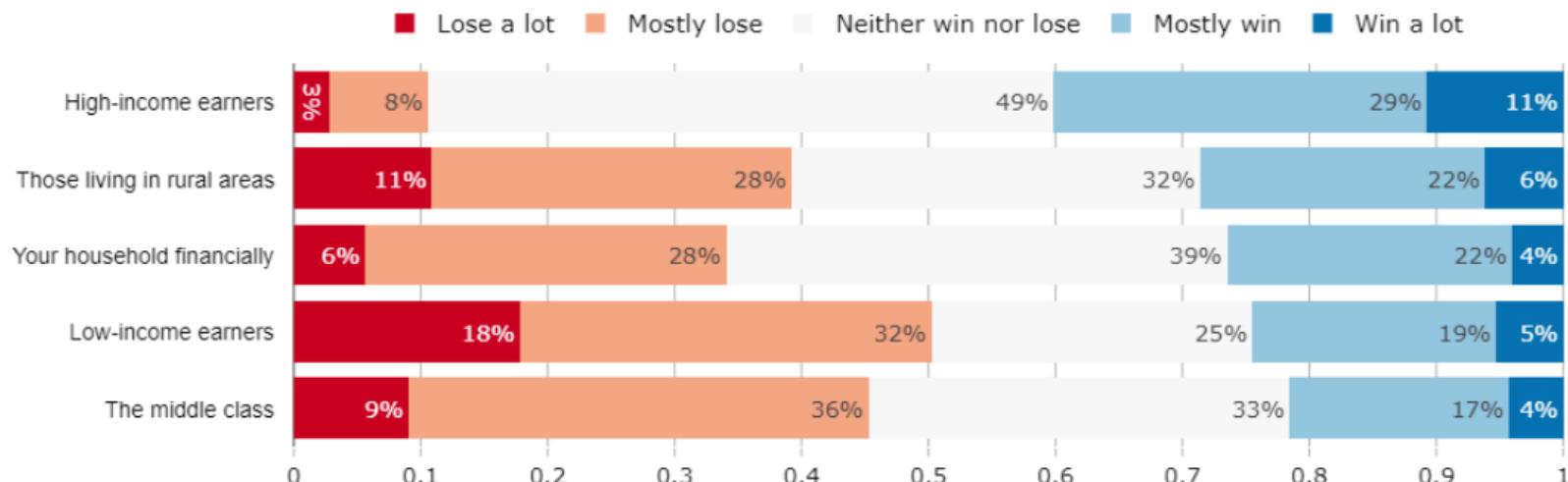
# Effects of the policy

Do you agree or disagree with the following statements? A green infrastructure program would...



# Incidence

In your view, would the following groups win or lose with a green infrastructure program?

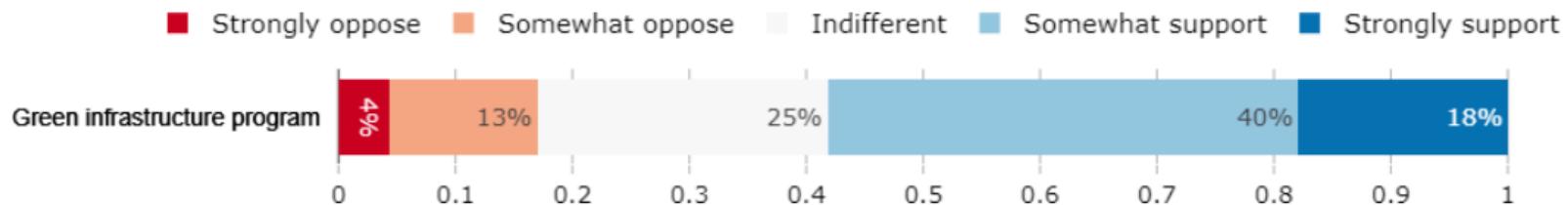


# Fairness and support

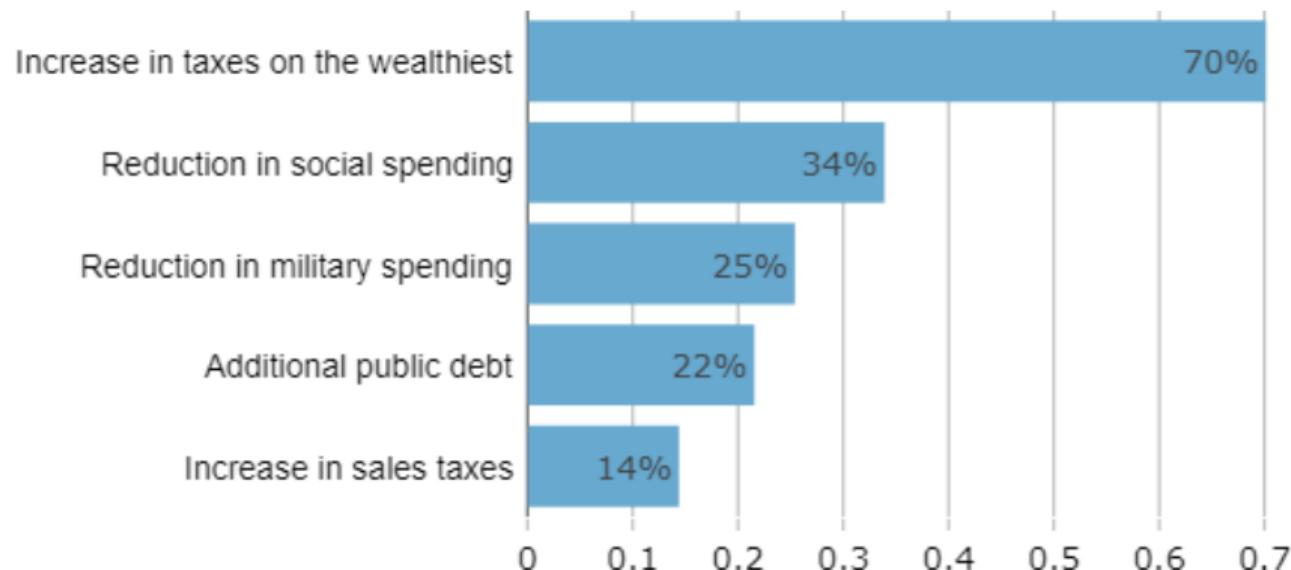
Do you agree or disagree with the following statement: "A green infrastructure program mainly financed by public debt is fair."



Do you support or oppose a green infrastructure program?



Until now, we have considered that a green infrastructure program would be financed by public debt, but other sources of funding are possible. What sources of funding do you find appropriate for a green infrastructure program? (Multiple answers are possible)



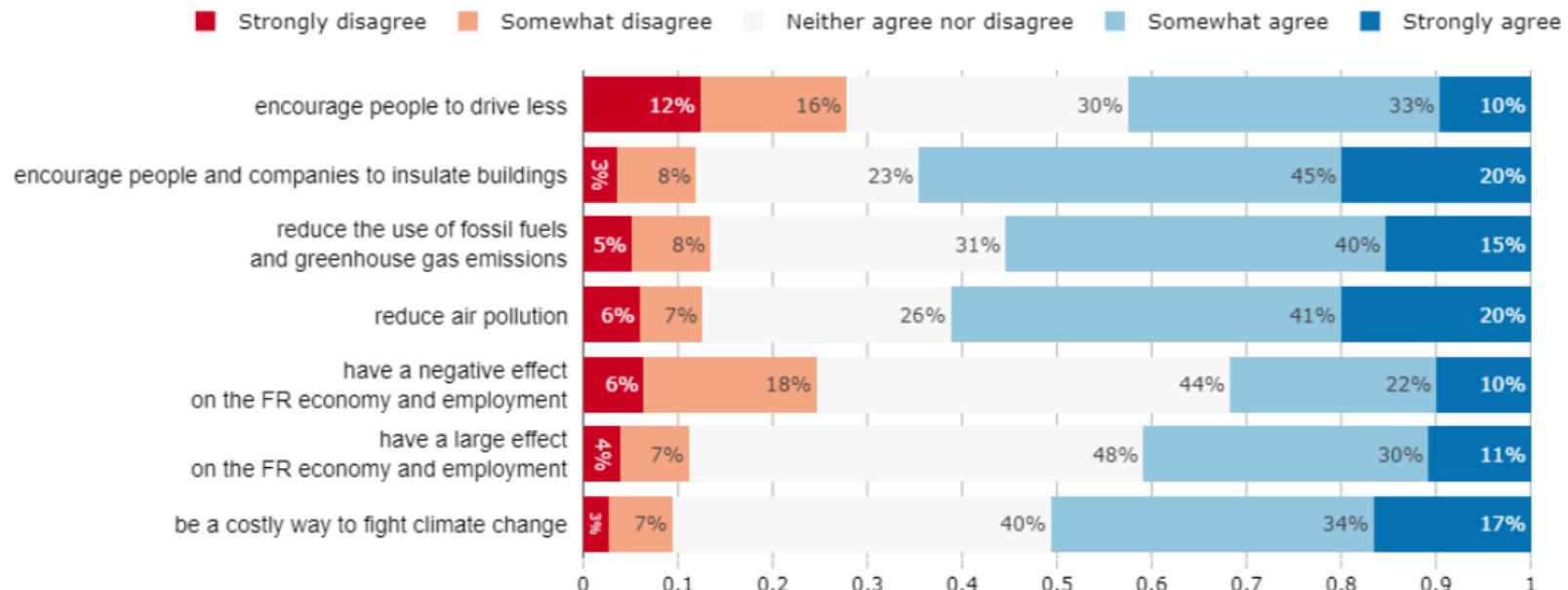
## Policy 3: Carbon Tax with Cash Transfers

## Policy description

To fight climate change, the French government can make greenhouse gas emissions costly, to make people and firms change their equipment and reduce their emissions. The government could do this through a policy called a carbon tax with cash transfers. Under such a policy, the government would tax all products that emit greenhouse gas. For example, the price of gasoline would increase by 10 cents per liter. To compensate households for the price increases, the revenues from the carbon tax would be redistributed to all households, regardless of their income. Each adult would thus receive 160€ per year.

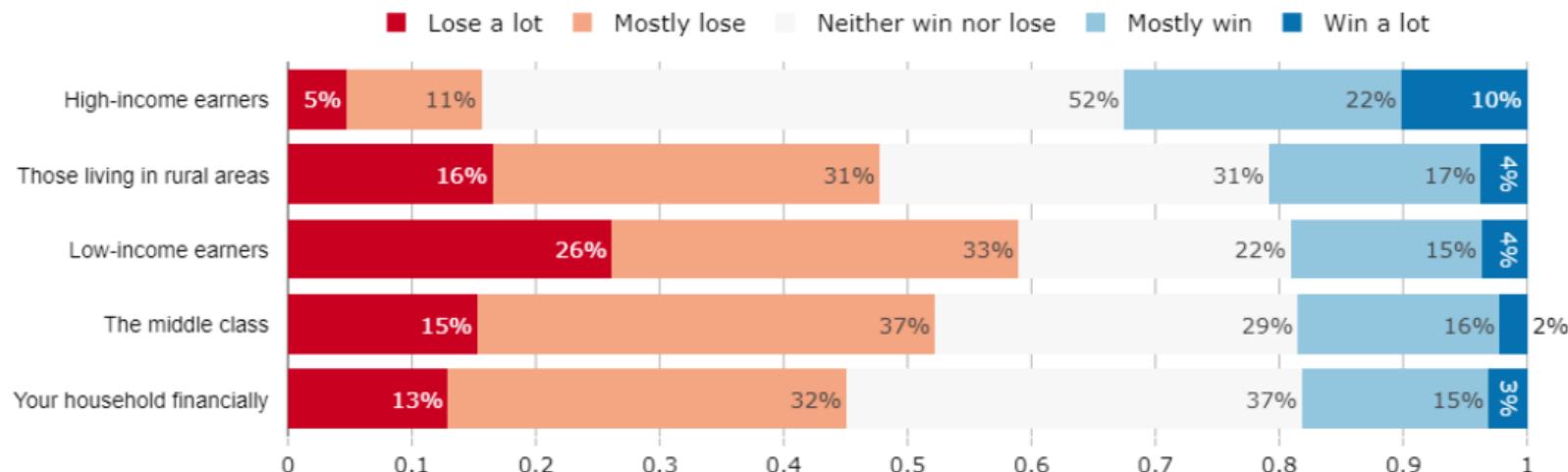
# Effects of the policy

Do you agree or disagree with the following statements? A carbon tax with cash transfers would...



# Incidence

In your view, would the following groups win or lose under a carbon tax with cash transfers?



# Fairness and support

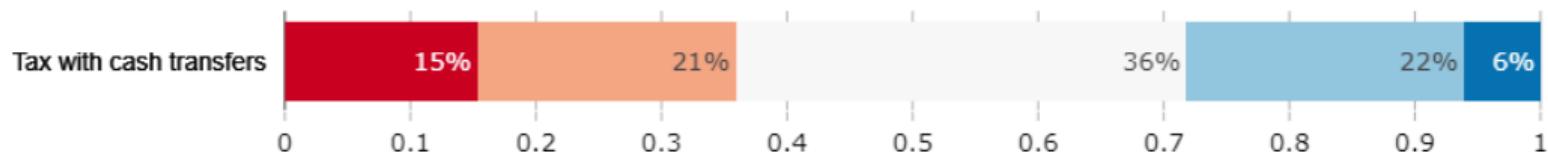
Do you agree or disagree with the following statement: "A carbon tax with cash transfers is fair."

- Strongly disagree ■ Somewhat disagree ■ Neither agree or disagree ■ Somewhat agree ■ Strongly agree



Do you support or oppose a carbon tax with cash transfers?

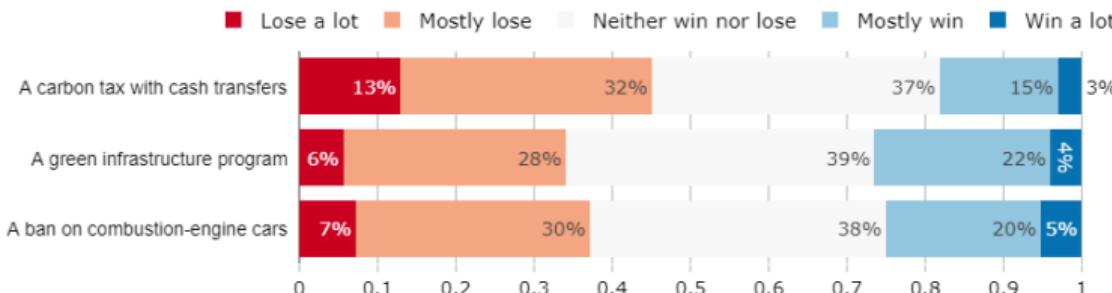
- Strongly oppose ■ Somewhat oppose ■ Indifferent ■ Somewhat support ■ Strongly support



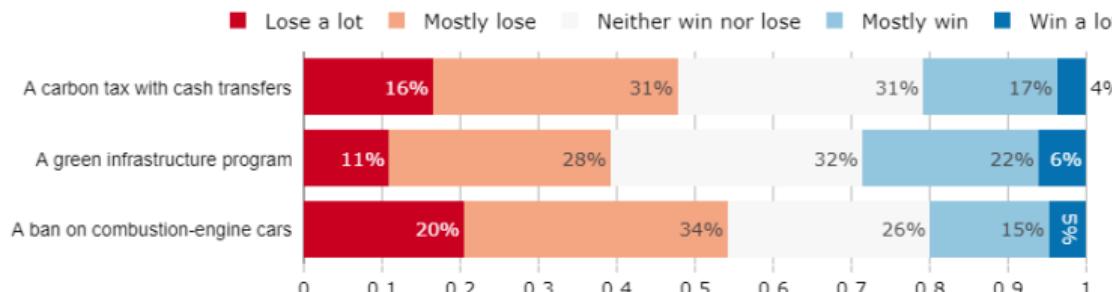
## Comparison across the 3 Policies:

# Policy Incidence

*Comparison of responses to each policy question: Do you think that financially your household would win or lose from the policy?*

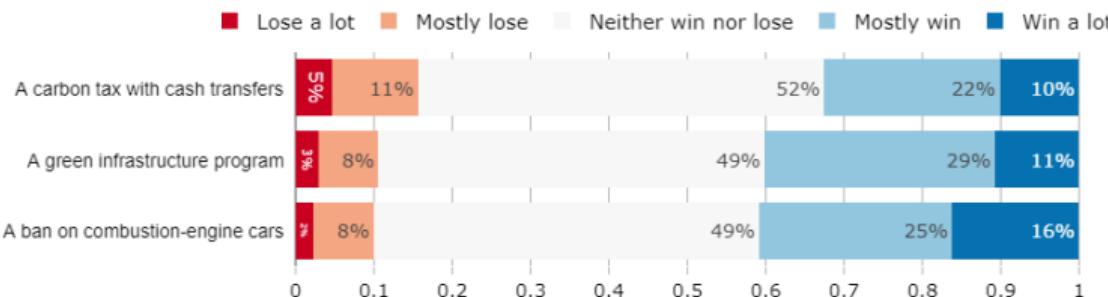


*Comparison of responses to each policy question: In your view, would those living in rural areas win or lose from the following policy?*

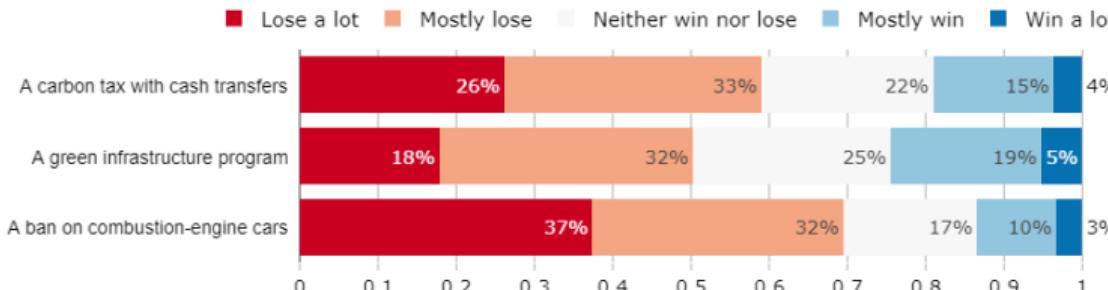


# Policy Incidence

*Comparison of responses to each policy question: In your view, would high-income earners win or lose from the following policy?*

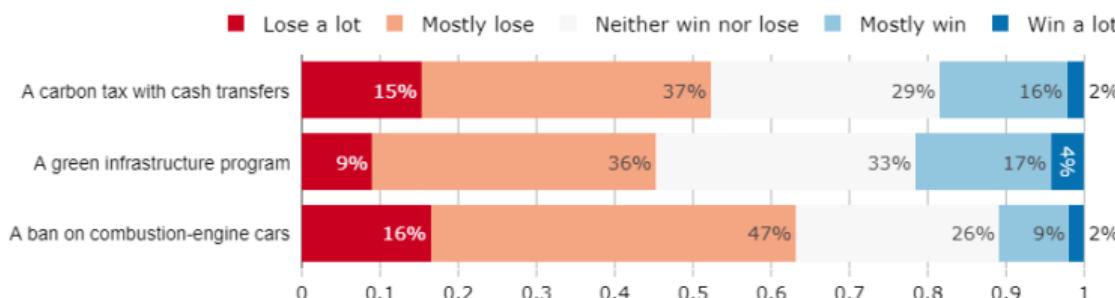


*Comparison of responses to each policy question: In your view, would low-income earners win or lose from the following policy?*



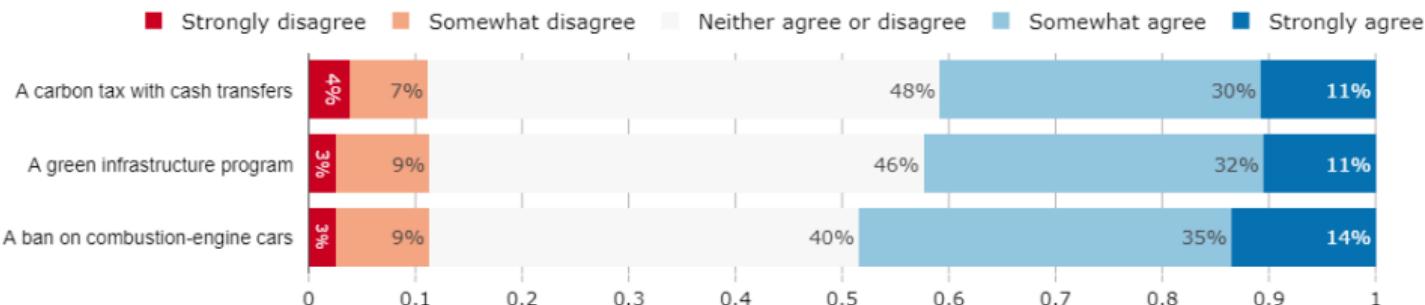
# Policy Incidence

*Comparison of responses to each policy question: In your view, would the middle-class win or lose from the following policy?*

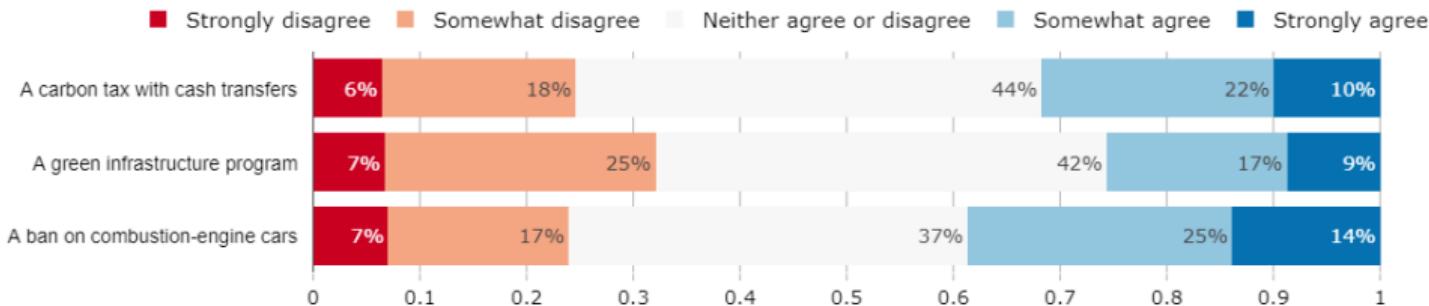


# Effects of the policy

*Comparison of responses to each policy question: Do you agree or disagree with the following statement? The policy would have a large effect on the French economy and employment.*

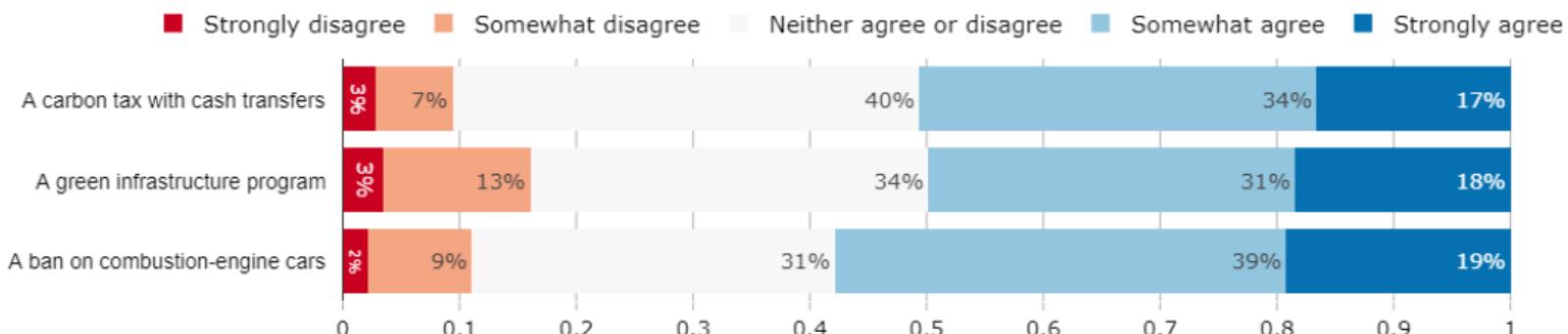


*Comparison of responses to each policy question: Do you agree or disagree with the following statement? The policy would have a negative effect on the French economy and employment.*



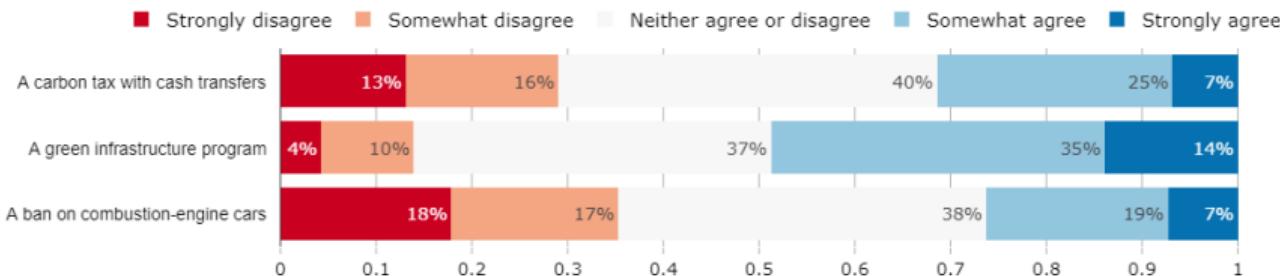
# Effects of the policy

*Comparison of responses to each policy question: Do you agree or disagree with the following statement? The policy would be costly to fight climate change*

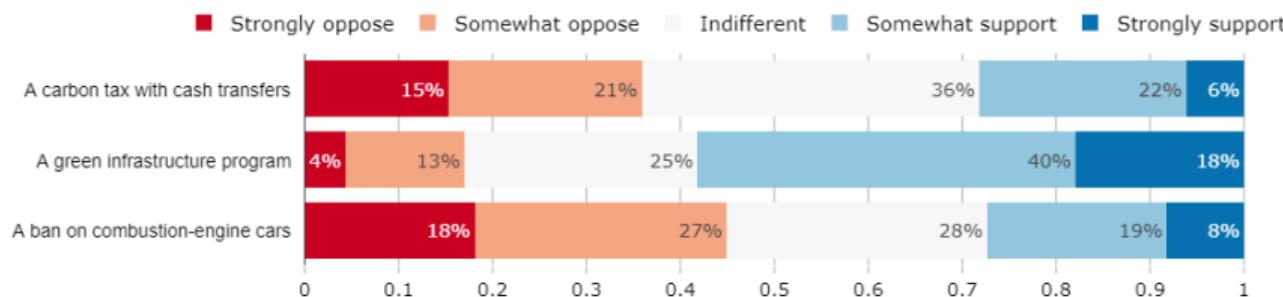


# Fairness and support

*Comparison of responses to each policy question: Do you agree or disagree with the following statement: "The policy is fair."*



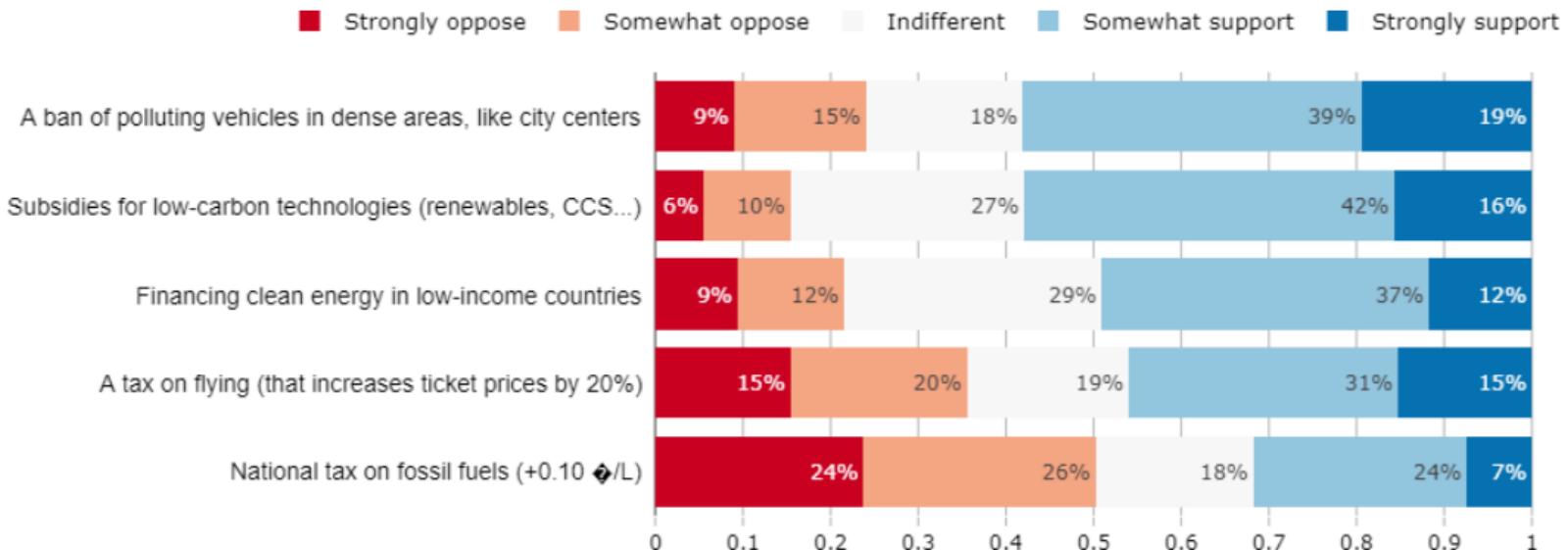
*Comparison of responses to each policy question: do you support or oppose the following policy?*



# Preferences for Climate Policies

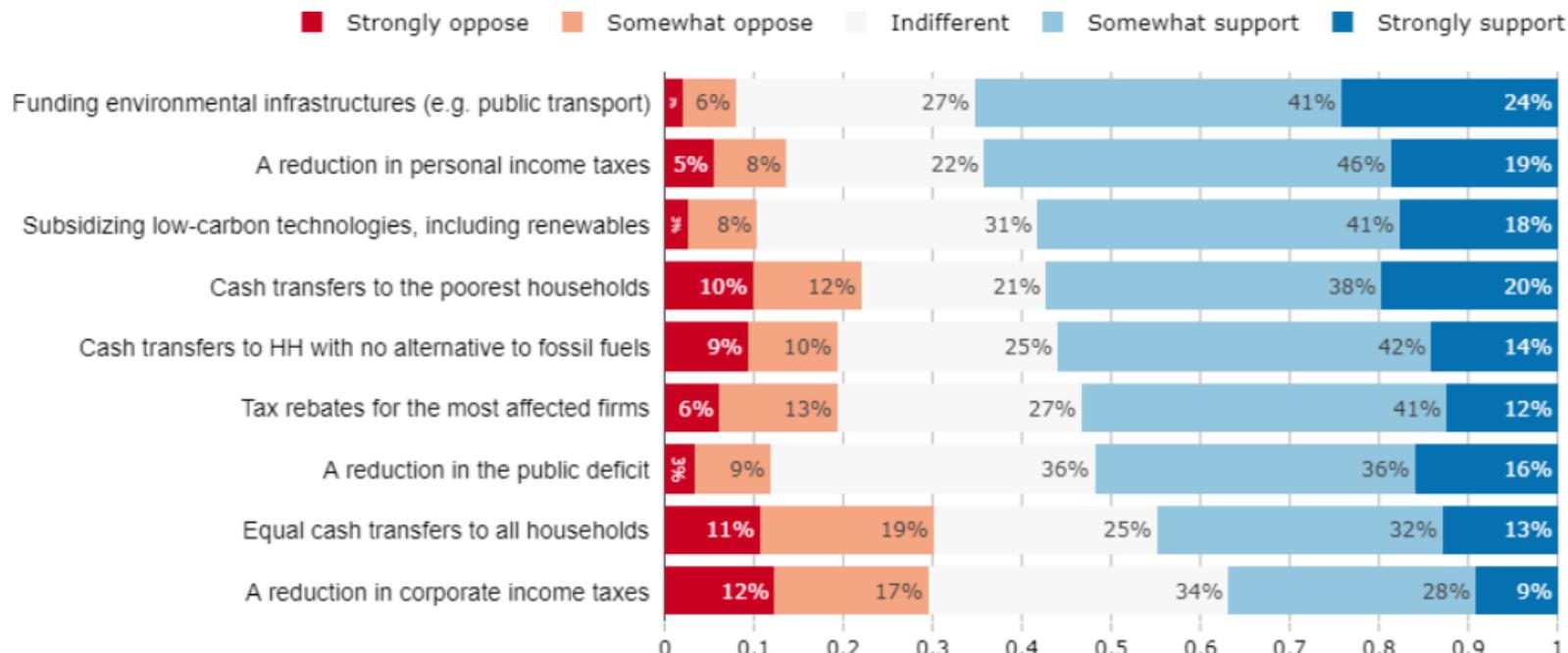
# Other policies

Do you support or oppose the following climate policies?



## Revenue recycling of carbon tax

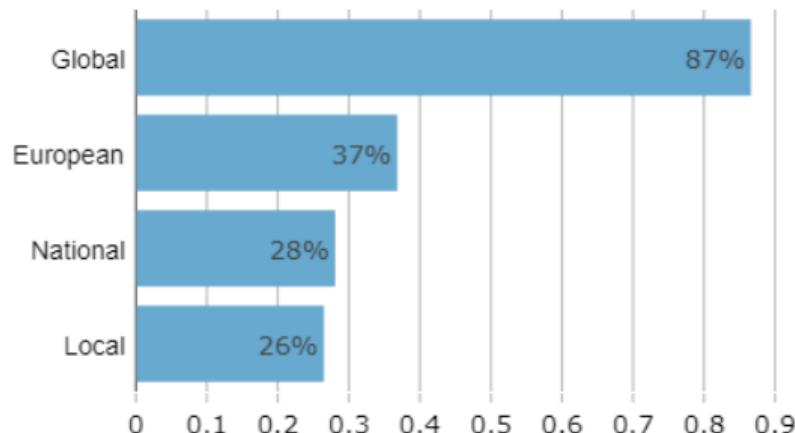
Governments can use the revenues from carbon taxes in different ways. Would you support or oppose introducing a carbon tax that would raise gasoline prices by 10 centimes par litre, if the government used this revenue to finance...



# International Burden-Sharing

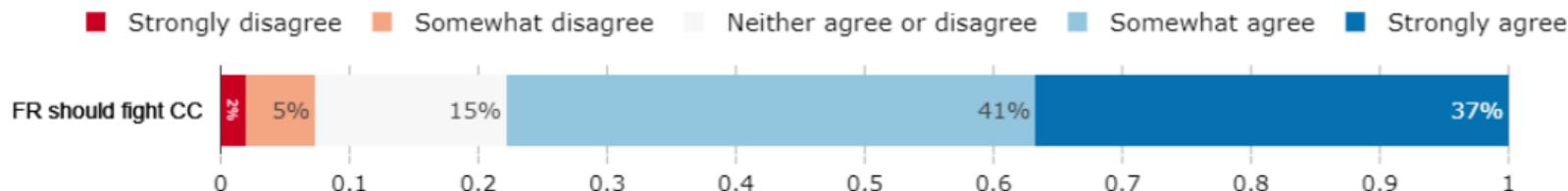
## Governance of climate policies

At which level(s) do you think public policies to tackle climate change need to be put in place? (Multiple answers are possible)



# France climate policy

Do you agree or disagree with the following statement: "France should take measures to fight climate change."

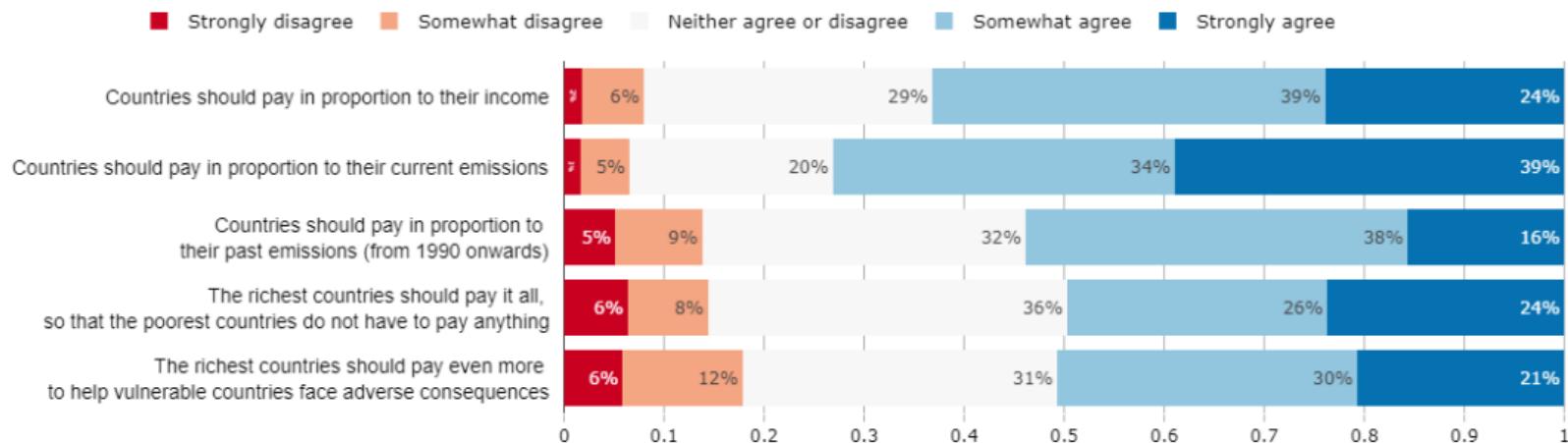


How should French climate policies depend on what other countries do?



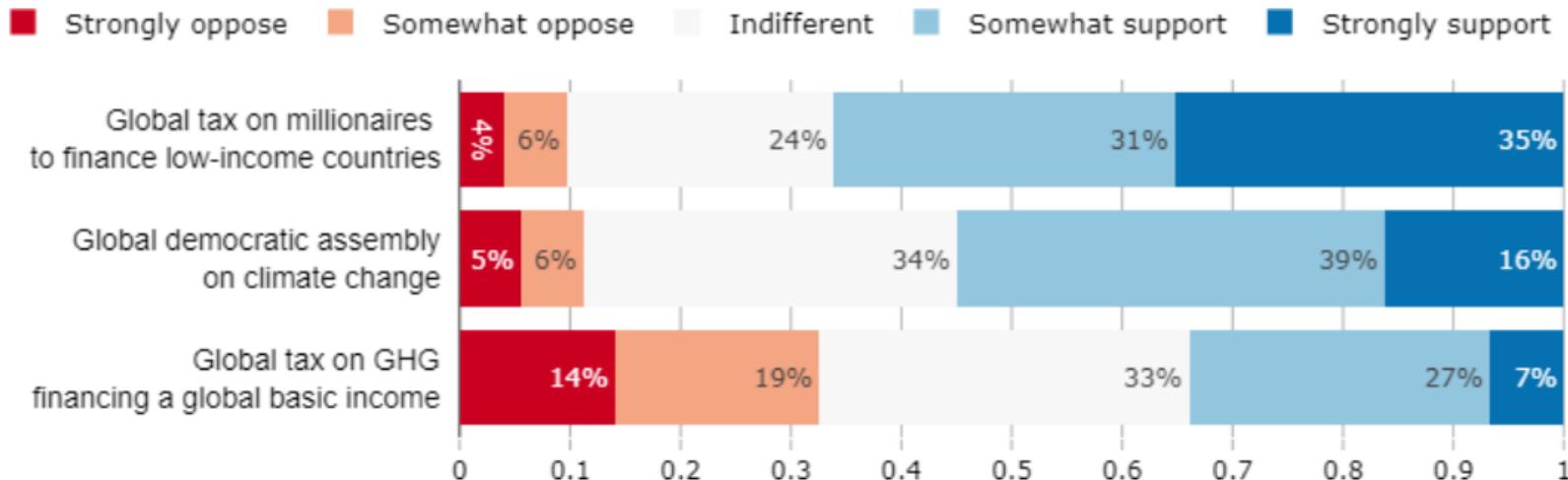
# Burden-sharing

To achieve a given reduction of greenhouse gas emissions globally, costly investments are needed. Ideally, how should countries bear the costs of fighting climate change?



# Global policies

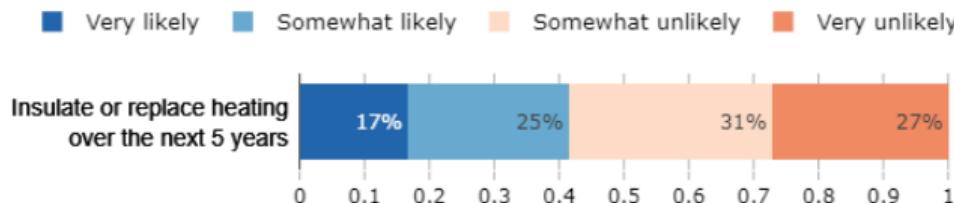
Do you support or oppose the following policies?



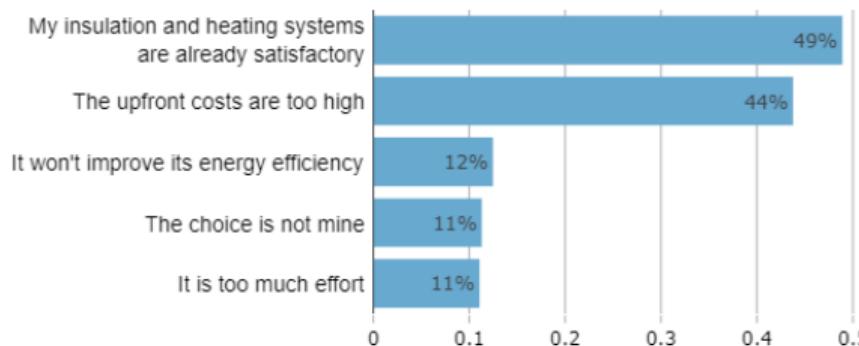
## Housing/Preferences for Bans vs. Incentives

# Insulation

How likely is it that you will improve the insulation or replace the heating system of your accommodation over the next 5 years?



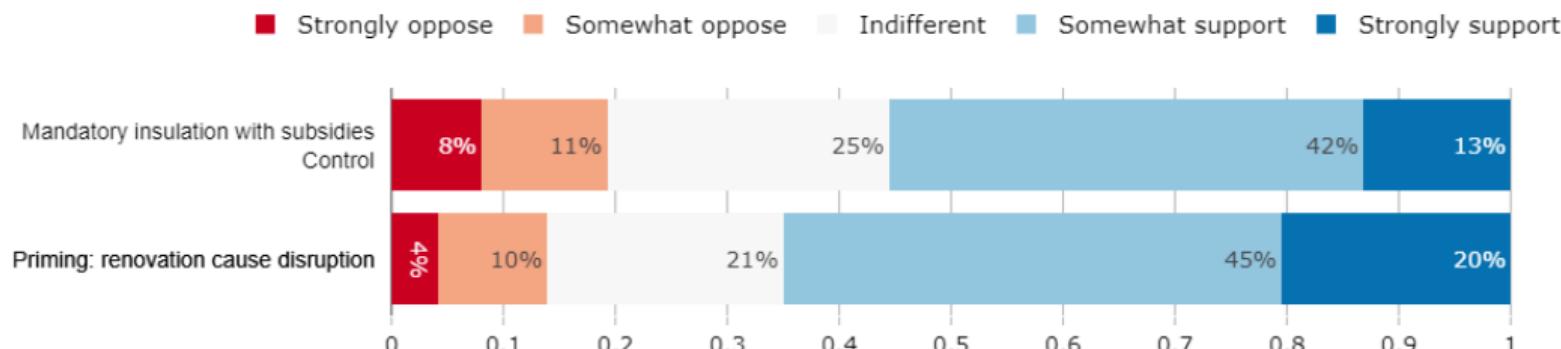
What are the main hurdles preventing you from improving the insulation or replace the heating system of your accommodation? (Multiple answers are possible)



# Insulation

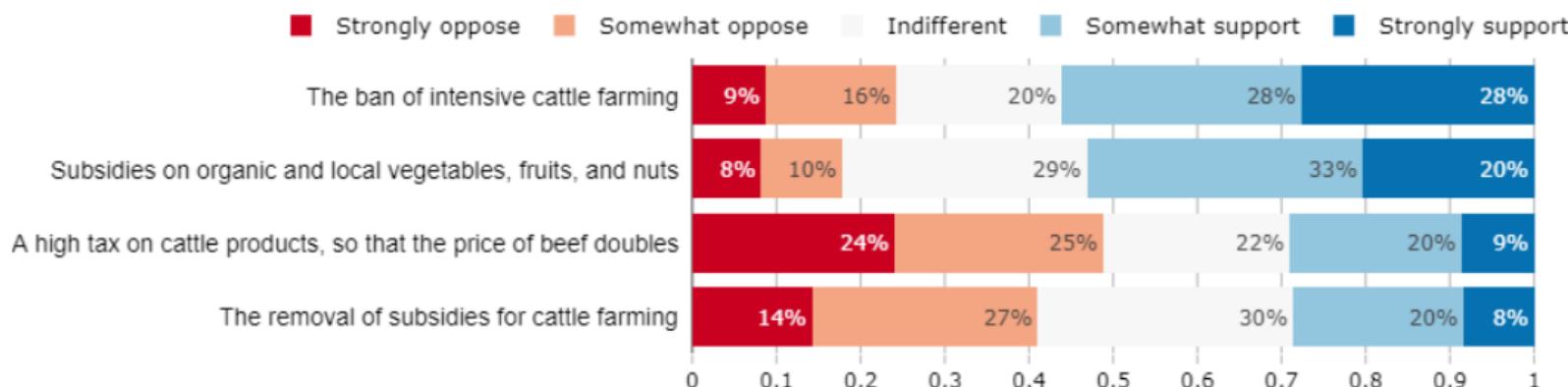
Imagine that the French government makes it mandatory for all residential buildings to have insulation that meets a certain energy efficiency standard before 2040. The government would subsidize half of the insulation costs to help households with the transition.

*Displayed in disruption variant:* [Insulating your home can take long, may cause disruptions to your daily life during the renovation works, and may even require you to leave your home until the renovation is completed.] Do you support or oppose such policy?



# Cattle products

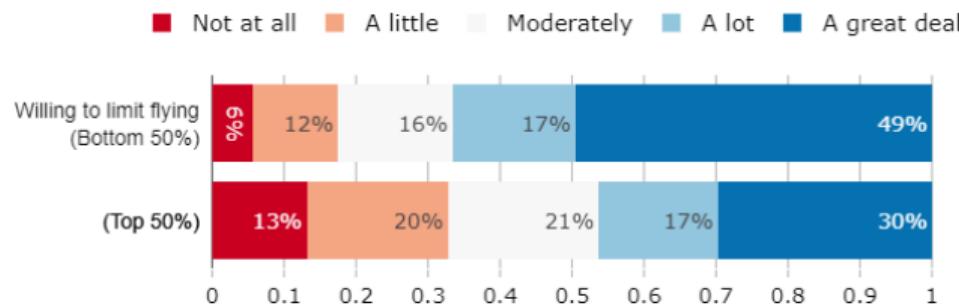
Imagine that, in order to fight climate change, the French government decides to limit the consumption of cattle products like beef and dairy. Do you support or oppose the following options?



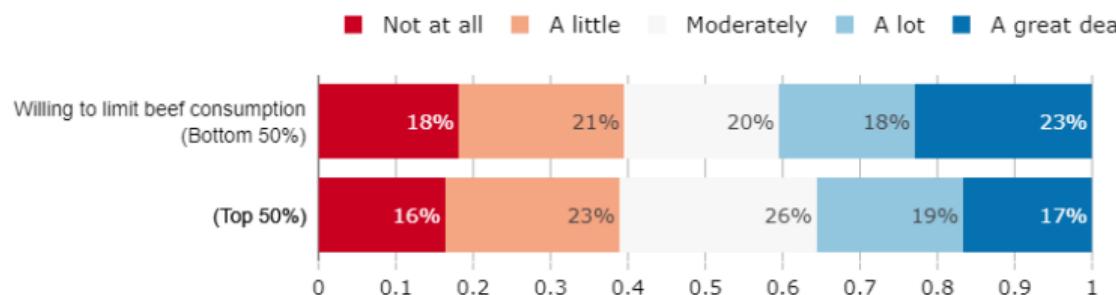
# Heterogeneity Analysis

## Willingness to change behavior

To what extent would you be willing to adopt the following behaviors? -- Limit Flying, by Income

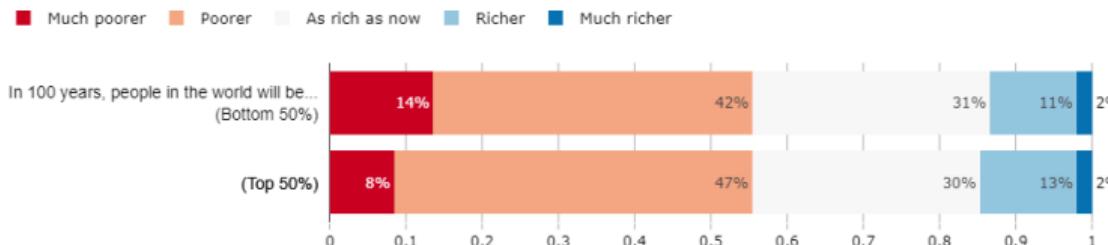


To what extent would you be willing to adopt the following behaviors? – Limit Beef Consumption, by Income

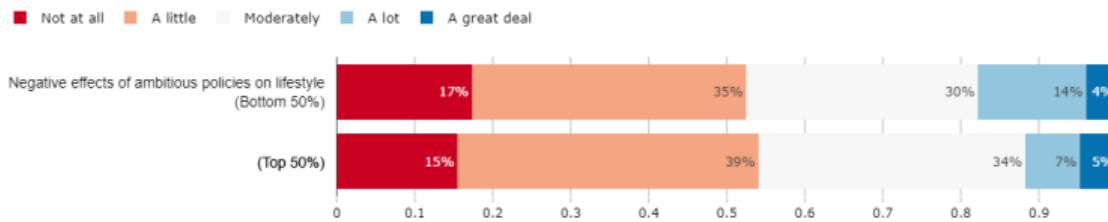


# Perception

Do you think that overall people in the world will be richer or poorer in 100 years from now? -- by Income

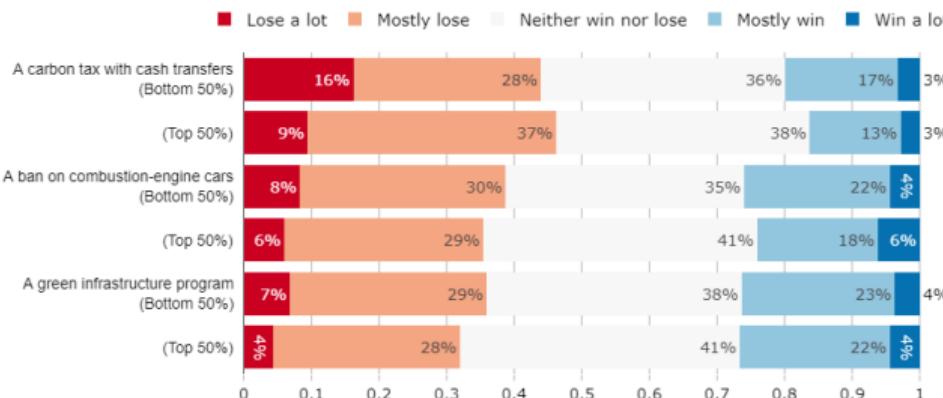


If we decide to halt climate change through ambitious policies, to what extent do you think it would negatively affect your lifestyle? – by Income

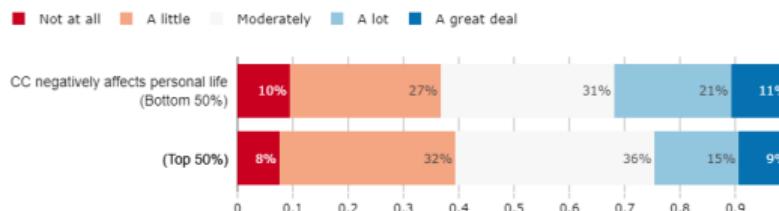


# Effects on own household

Do you think that financially your household would win or lose from the following policy? – by Income

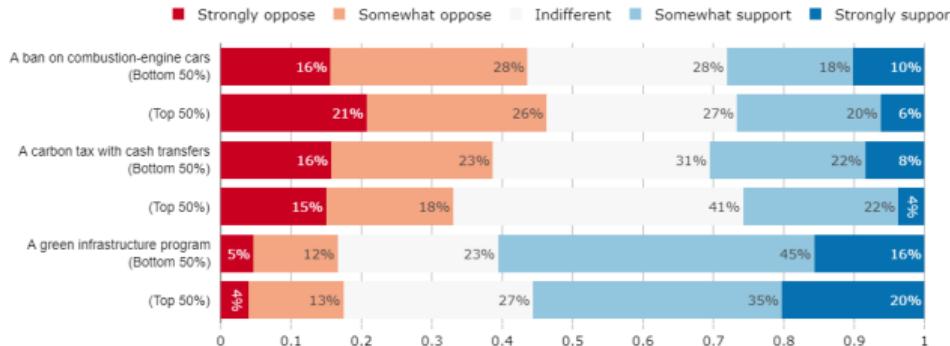


To what extent do you think climate change already affects or will negatively affect your personal life? – by Income

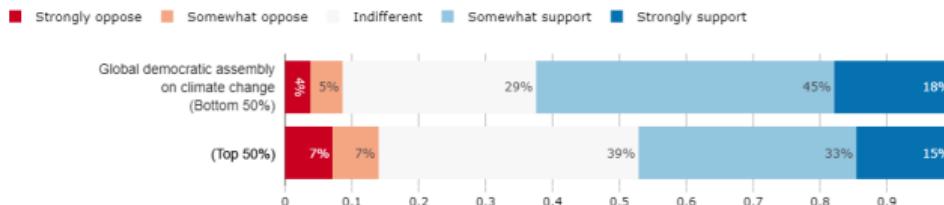


# Policies – support

## Do you support or oppose the following policy? – by Income

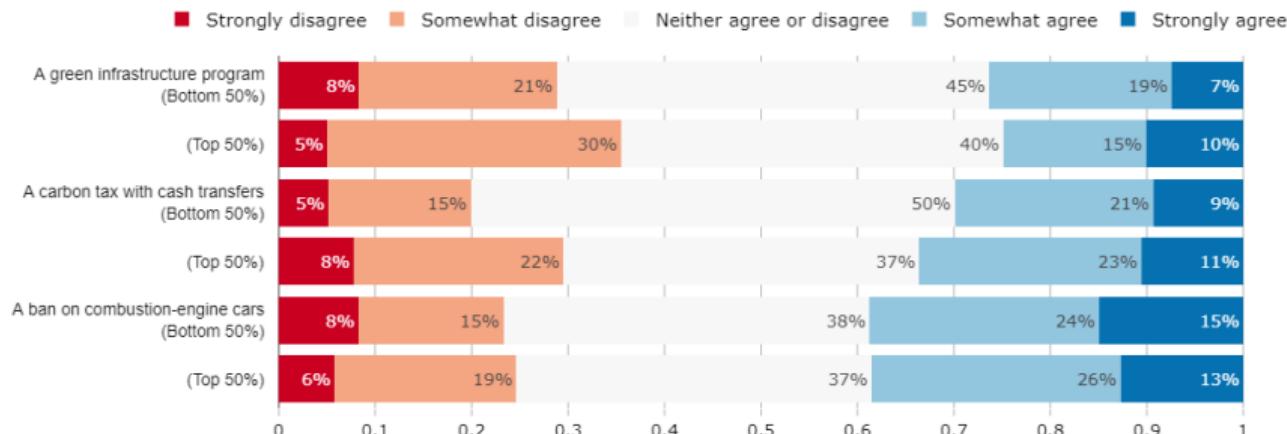


Do you support or oppose establishing a global democratic assembly whose role would be to draft international treaties against climate change? Each adult across the world would have one vote to elect members of the assembly. – by Income



## Policies – negative effects

Do you agree or disagree with the following statement? This policy would have a negative effect on the French economy and employment – by Income



# Treatment Effects

**Table 1:** Attitudes towards Climate Change

	CC caused by humans	CC likely to cause extinction	Donation (in % of max)	FR should fight CC	Willing to limit driving
Control group mean	0.567	0.587	24.924	0.778	0.321
Treatment: Climate	0.096*** (0.029)	-0.034 (0.031)	2.490 (1.694)	0.006 (0.026)	-0.020 (0.029)
Treatment: Policy	0.037 (0.028)	-0.055* (0.030)	-0.561 (1.644)	-0.036 (0.025)	-0.030 (0.028)
Treatment: Both	0.052* (0.029)	-0.021 (0.031)	-1.632 (1.666)	-0.013 (0.026)	0.013 (0.028)
Observations	1,985	1,988	1,988	1,988	1,988

Note: The *CC caused by humans* indicator variable equals one if the respondent thinks a lot or most of climate change is due to human actions. The *CC likely to cause extinction* indicator variable equals one if the respondent thinks climate change is somewhat likely or very likely to cause the extinction of humankind if nothing is done to limit it. The *Donation* variable is a continuous variable equal to the amount the respondent is willing to give to a charity. The *Ambitious policies needed* indicator variable equals one if the respondent thinks policy must be a lot or a great deal ambitious in order to halt climate change. The *Willing to limit driving* indicator variable equals one if the respondent is willing a lot or a great deal to limit driving. The three *treatment* indicator variables indicate difference in mean compared to the control group (people who did not see any video). Controls include socio-demographic, economic affiliation, last vote and whether the respondent's household was hit by the COVID-19 pandemic. Standard errors are in parentheses. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table 2:** Support for policies

	Support			
	Carbon tax with transfers	Green Infrastructure Program	Ban on combustion-engine cars	Average over 3 policies
Control group mean	0.282	0.582	0.274	0.444
Treatment: Climate	0.061** (0.030)	0.037 (0.030)	0.032 (0.029)	0.035 (0.031)
Treatment: Policy	0.079*** (0.029)	0.033 (0.029)	0.061** (0.028)	0.051* (0.030)
Treatment: Both	0.146*** (0.029)	0.037 (0.030)	0.100*** (0.029)	0.099*** (0.030)
Observations	1,988	1,988	1,988	1,988

Note: The dependent variables are indicator variables equal to one if the respondent ‘Strongly supports’ or “Somewhat supports” the policy. The *Average over 3 policies* takes the average of the respondent’s answers for the three policies. It equals one if the respondent support all three policies, 2/3 if she supports two, 1/3 if she support only one, and 0 if she supports none. See notes under previous Table for a description of the covariates.

Controls include socio-demographic, economic affiliation, last vote and whether the respondent’s household was hit by the COVID-19 pandemic. Standard errors are in parentheses. \* $p<0.1$ ; \*\* $p<0.05$ ; \*\*\* $p<0.01$

Table 3: Attitudes towards policies

	Fair	HH would win	Poor would win	Large economic effect	Negative economic effect
Control group mean	0.443	0.297	0.182	0.596	0.4
Treatment: Climate	0.009 (0.031)	0.021 (0.030)	0.003 (0.026)	0.004 (0.031)	0.015 (0.031)
Treatment: Policy	0.014 (0.030)	0.035 (0.029)	0.080*** (0.026)	0.022 (0.030)	0.029 (0.030)
Treatment: Both	0.068** (0.031)	0.067** (0.030)	0.117*** (0.026)	0.063** (0.030)	0.040 (0.030)
Observations	1,988	1,870	1,969	1,988	1,988

Note: The dependent variables are discrete variables equal either to 0, 1/3, 2/3, or 1. They are equal to the average over the three policies mentioned in Table “Support policies”. The *Fair* variable equals one if the respondent strongly agrees or somewhat agrees that each of the three policies are fair. The *HH/Poor would win* variables equal one if the respondent thinks her household/the poorest would win a lot or mostly win from the three policies. The *Large/Negative economic effect* variables equal one if the respondent strongly agrees or somewhat agrees that the three policies would have a large/negative impact on the French economy and employment.

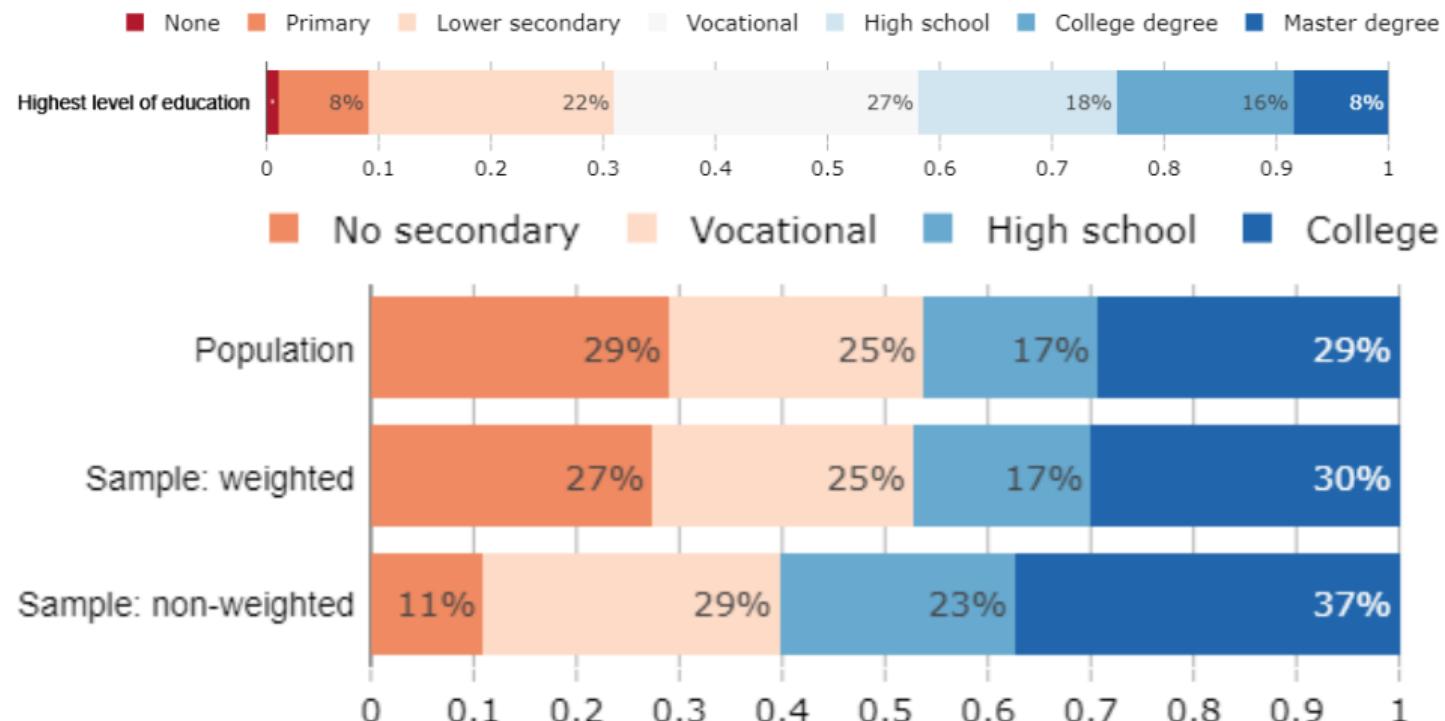
Controls include socio-demographic, economic affiliation, last vote and whether the respondent’s household was hit by the COVID-19 pandemic. Standard errors are in parentheses. \* $p<0.1$ ; \*\* $p<0.05$ ; \*\*\* $p<0.01$

# Appendix

# Socio-Demographics

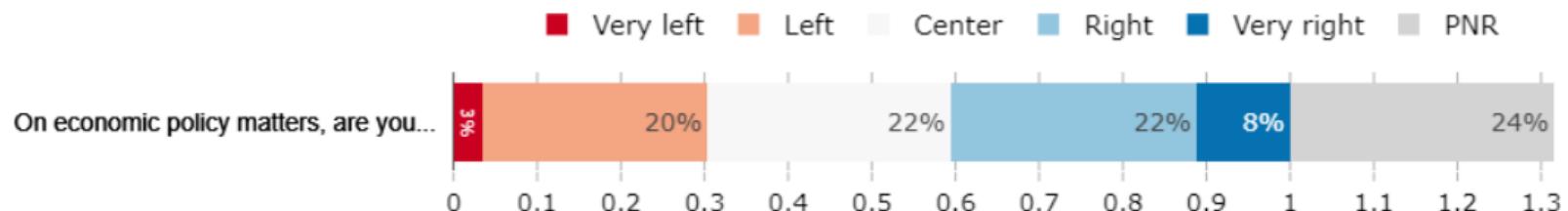
# Education

What is the highest level of education you have completed?



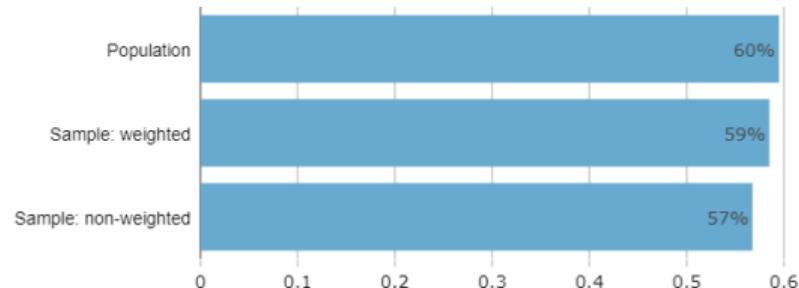
# Political affiliation

On economic policy matters, where do you see yourself on the liberal/conservative spectrum?



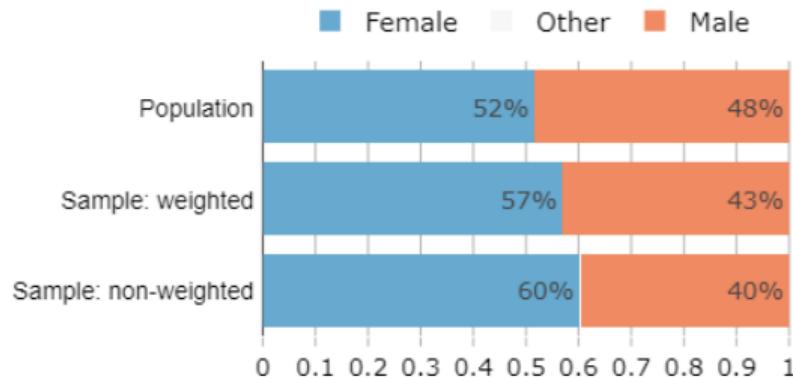
# Geography

Lives in an urban area (town > 20k people), retrieved from zipcode

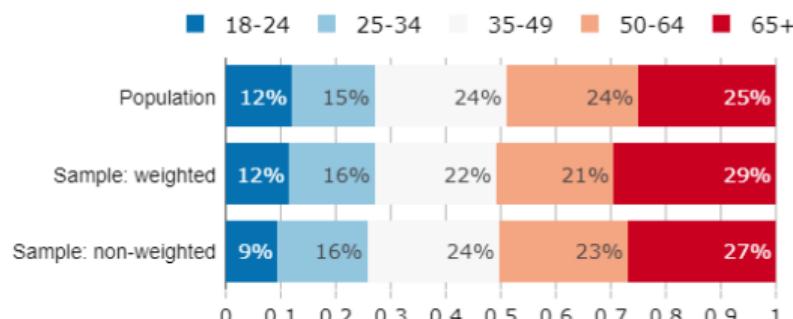


# Gender and age

What is your gender?

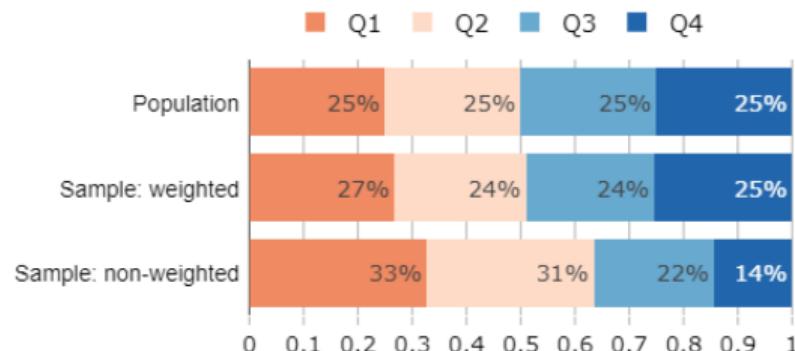


How old are you?

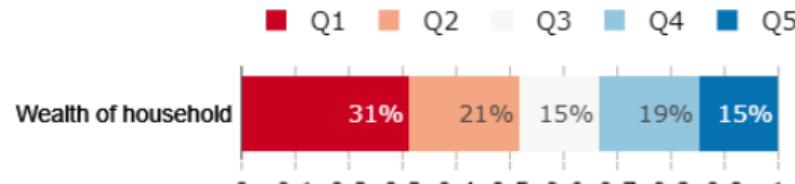


## Income/wealth

What was the annual income of your household in 2019 (before withholding tax, for you and those who live with you)?



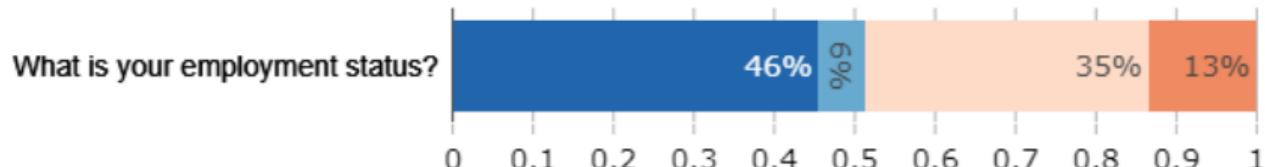
What is the estimated value of your assets, or the assets of your household if you are married (in French dollars)? Include here all your possessions (home, car, savings, etc.) net of debt. For example, if you own a house worth \$300,000 and you have \$100,000 left to repay on your mortgage, your assets are \$200,000.



# Employment and hit by covid

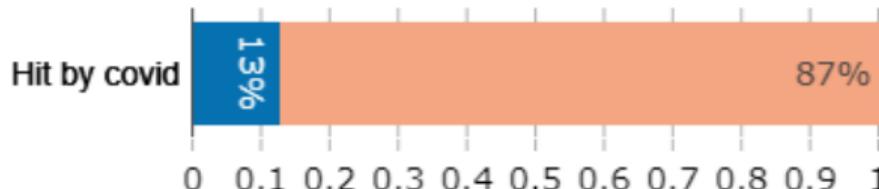
What is your employment status?

■ Working ■ Student ■ Retired ■ Not working



Have you or a member of your household been laid off or had to take a cut in your salary or wages due to the COVID-19 pandemic?

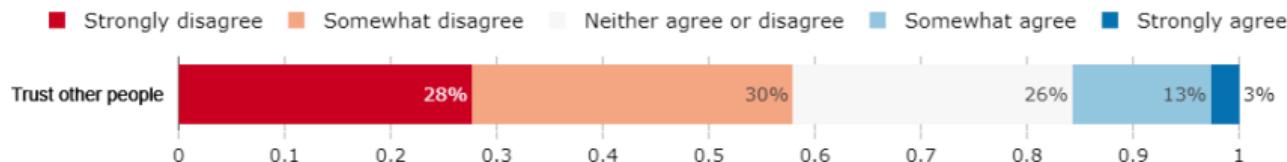
■ Yes ■ No



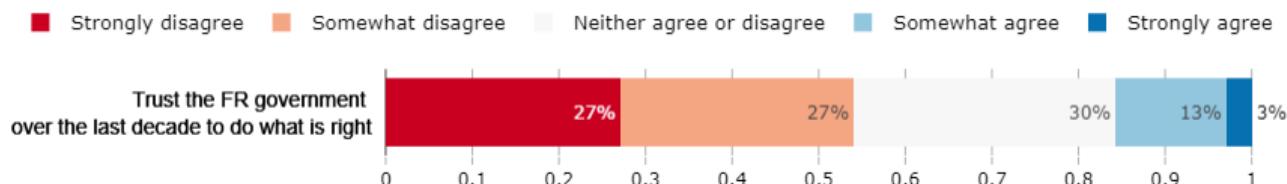
# Trust and institutions

# Trust

Do you agree or disagree with the following statement: "Most people can be trusted."

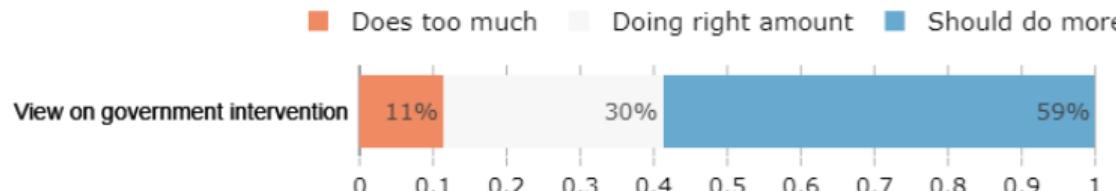


Do you agree or disagree with the following statement: "Over the last decade the French government could generally be trusted to do what is right."

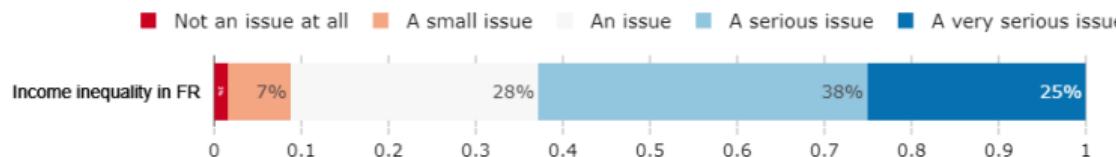


# Perception of institutions, inequality, and the future

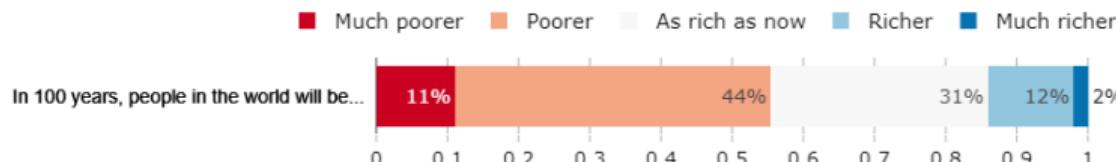
Some people think the government is trying to do too many things that should be left to individuals and businesses. Others think that government should do more to solve our country's problems. Which come closer to your own view?



How big of an issue do you think income inequality is in France?



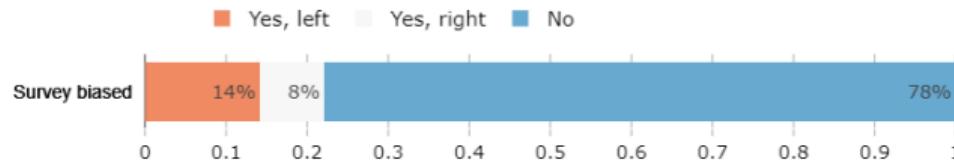
Do you think that overall people in the world will be richer or poorer in 100 years from now?



# Feedback

# Feedback on the survey

Do you feel that this survey was politically biased?



The survey is nearing completion. You can now enter any comments, thoughts or suggestions in the field below.  
Right: recoded in *Non empty/Liked/Disliked*.

