

A Fossil-Free & Sustainable Union

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The current regime

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⇒ We need a regime that: is Paris-aligned **temperature**-wise; meets the **SDGs**; is **efficient**; and **acceptable** (i.e. makes the richest pay; avoids losses in MICs; and is win-win as LICs enjoy transfers and HICs efficiency gains from trade.).

A Fossil-Free Union

Global policies are strongly supported by the public.

Share of support (somewhat or strongly) for the main global policies among non-*indifferent*.

► Absolute ► National



Level at which climate policies are needed (Multiple choice question)

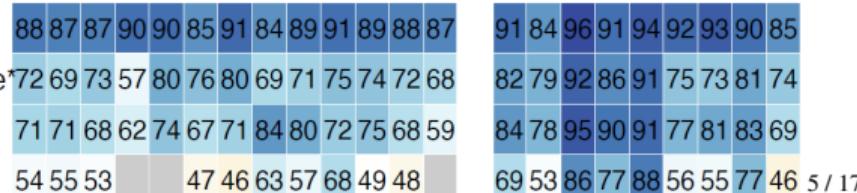
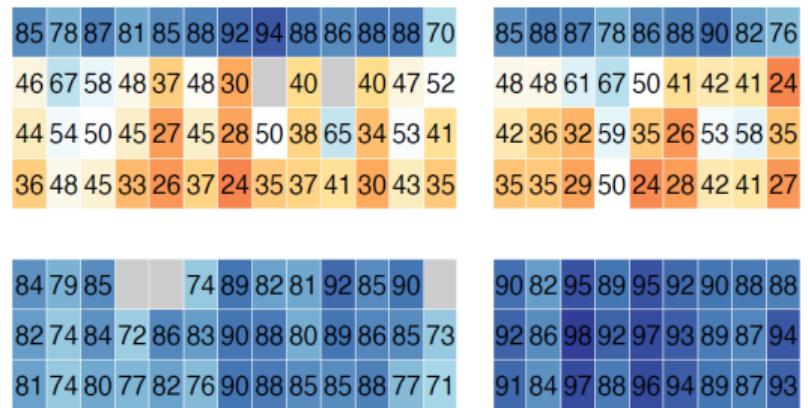
- Global
- Federal/Continental
- State/National
- Local

Global climate policies (5-Likert scale)

- Global carbon budget (+2°C) divided in tradable country shares
- Global tax on millionaires to finance low-income countries
- Global democratic assembly on climate change

Burden sharing preferences for the global carbon budget (5-Likert)

- Emission share should be in proportion to population*
- Countries that have emitted more since 1990 should receive a lower share*
- Countries that will be hurt more by CC should receive a higher share*
- Emission share should be in proportion to current emissions



A Global Climate Scheme

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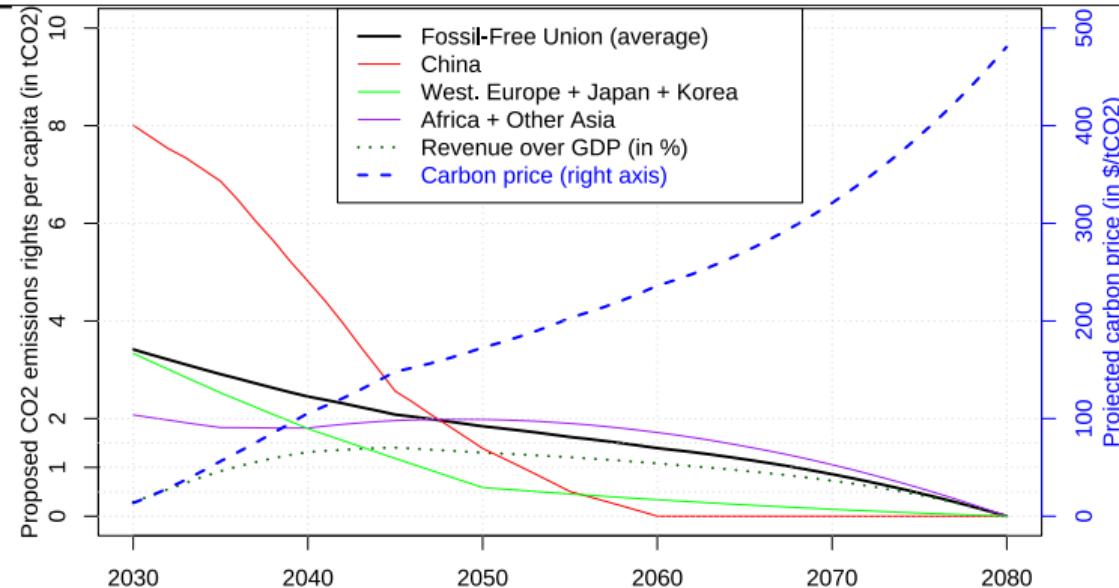
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The proposed allocation of emissions allowances

Table 1: Carbon budget over 2030–2080 for a 1.8°C trajectory (in GtCO₂)

	Africa	China	Latin America	India	Europe	Other Asia	<i>Union</i>	<i>World</i>
Equal p.c.	144	131	64	140	51	134	691	770
Proposal	146	147	64	140	24	139	689	770



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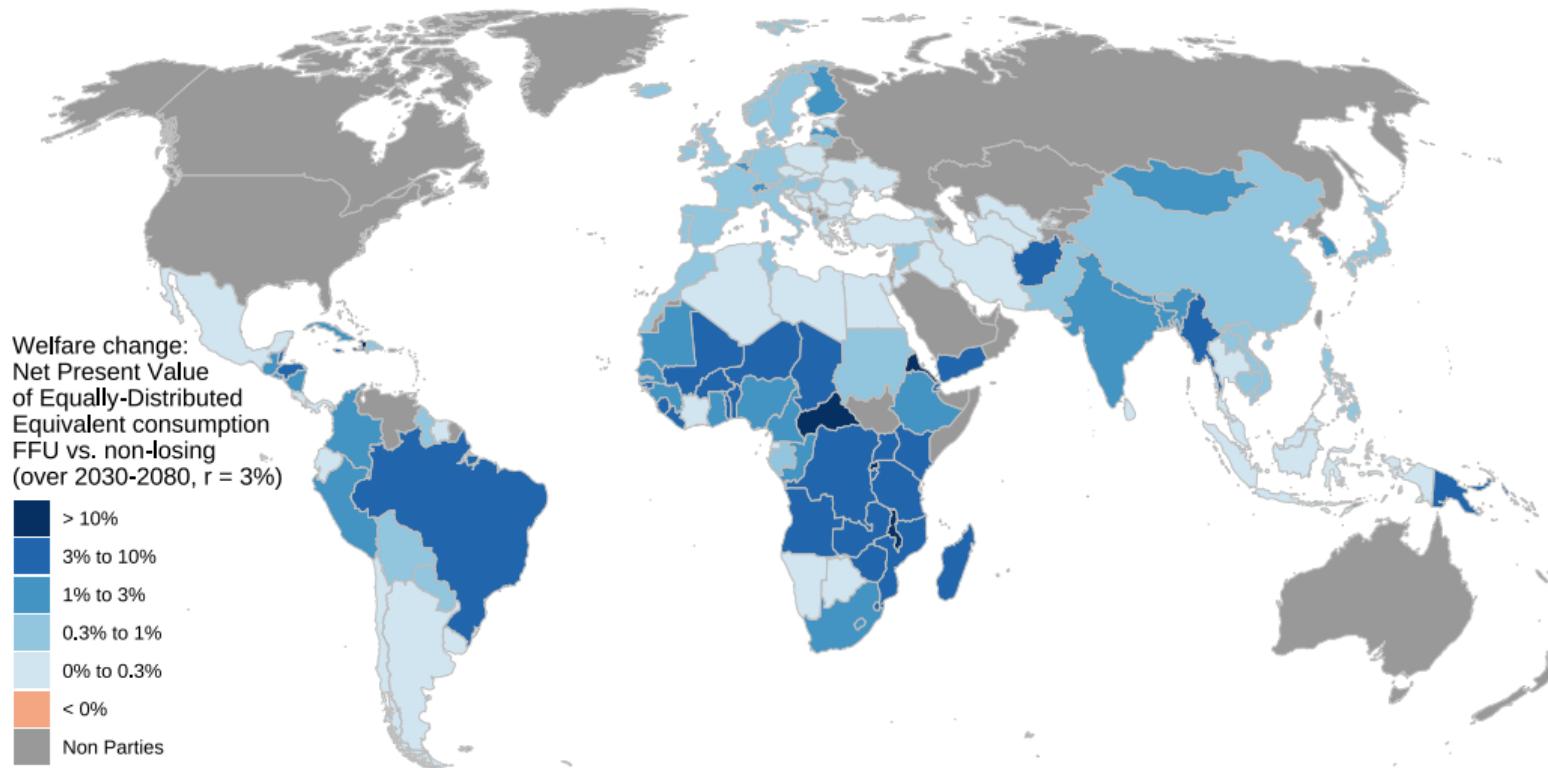
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Provisions to accommodate subnational entities (like California) into the club.

A carbon border adjustment would prevent carbon leakage.

A win-win agreement

Variation in welfare in the Fossil-Free Union, compared to a world with countries' emissions given by "non-losing rights" and without international carbon trading.



Key characteristics of this vision

Take stock that **universal agreement is out of reach**: move on with potential partners.

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Break the deadlock of international negotiations by providing low-income countries with resources.

Support for the Fossil-Free Union

Supports the National Climate Scheme

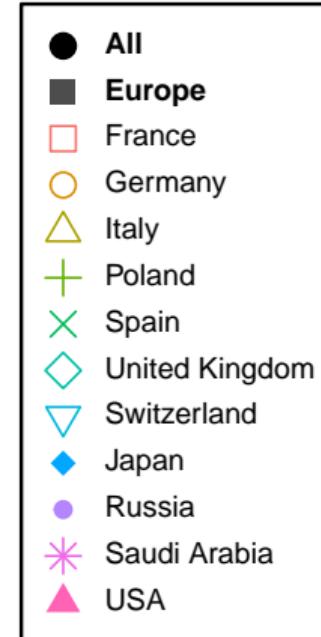
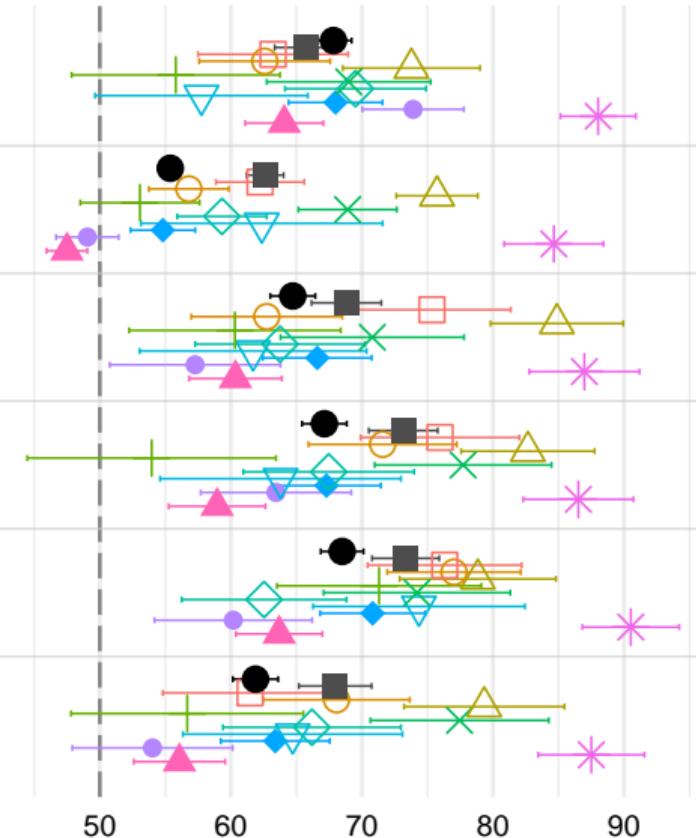
Supports the Global Climate Scheme (GCS)

Supports the GCS if coverage is **Low**
Other members: Global South + EU
(25–33% of world emissions)

Supports the GCS if coverage is **Mid**
Global South + China
(56% of world emissions)

Supports the GCS if coverage is **High**
Global South + China + EU + various HICs
(UK, Japan, Korea, Canada...; 64–72% of emissions)

Supports the GCS if coverage is **High, color variant**
Global South + China + EU + various HICs
+ Distributive effects shown using colors on world map



Alternative proposals

Fossil-fuel non-proliferation treaty by Calverley & Anderson (2022); climate movement.

Supply-side policy: phase out fossil fuel production, starting with richest countries.

⇒ Relies on fuel producers' cooperation; increases oil rents and hurt consumers; lacks efficiency.

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Differentiated carbon prices by Parry, Black & Roaf (IMF, 2021), Wolfram et al. (2025).

Higher prices in HICs, no transfer, carbon tariff at the club's border.

⇒ Limited ambition; few transfers; no gains from trade. ▶ Correspondence rights - differentiated prices

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Pricing incentive reward by Stoft (2009).

Transfers proportional to price deviation from target and emissions below world average.

⇒ No guarantee to achieve temperature target; HICs may be net recipient.

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Refunding club by Gersbach et al. (2021), Finus (2024).

Initial (potentially negative) payments and yearly refunds proportional to abatement.

⇒ Initial payments difficult to finance.

Support for global justice policies

[More results](#)

Share of support (somewhat or strongly) for the main global policies among non-*indifferent*.

	Europe	France	Germany	Spain	United Kingdom	United States
Support for a Global Climate Scheme at \$90/tCO2*	76	80	71	81	74	54
Global tax on millionaires funding low-income countries	84	84	84	87	83	69
Preferred share of global wealth tax for low-income countries: ≥ 30%*	54	53	50	57	54	50
High-income countries funding renewable energy in low-income countries	82	82	82	85	81	68
[Country]'s foreign aid should be increased	64	63	68	69	56	60

A Sustainable Union

Principles and proposals

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⇒ 1% of each country's GNI reallocated in proportion to countries' population.

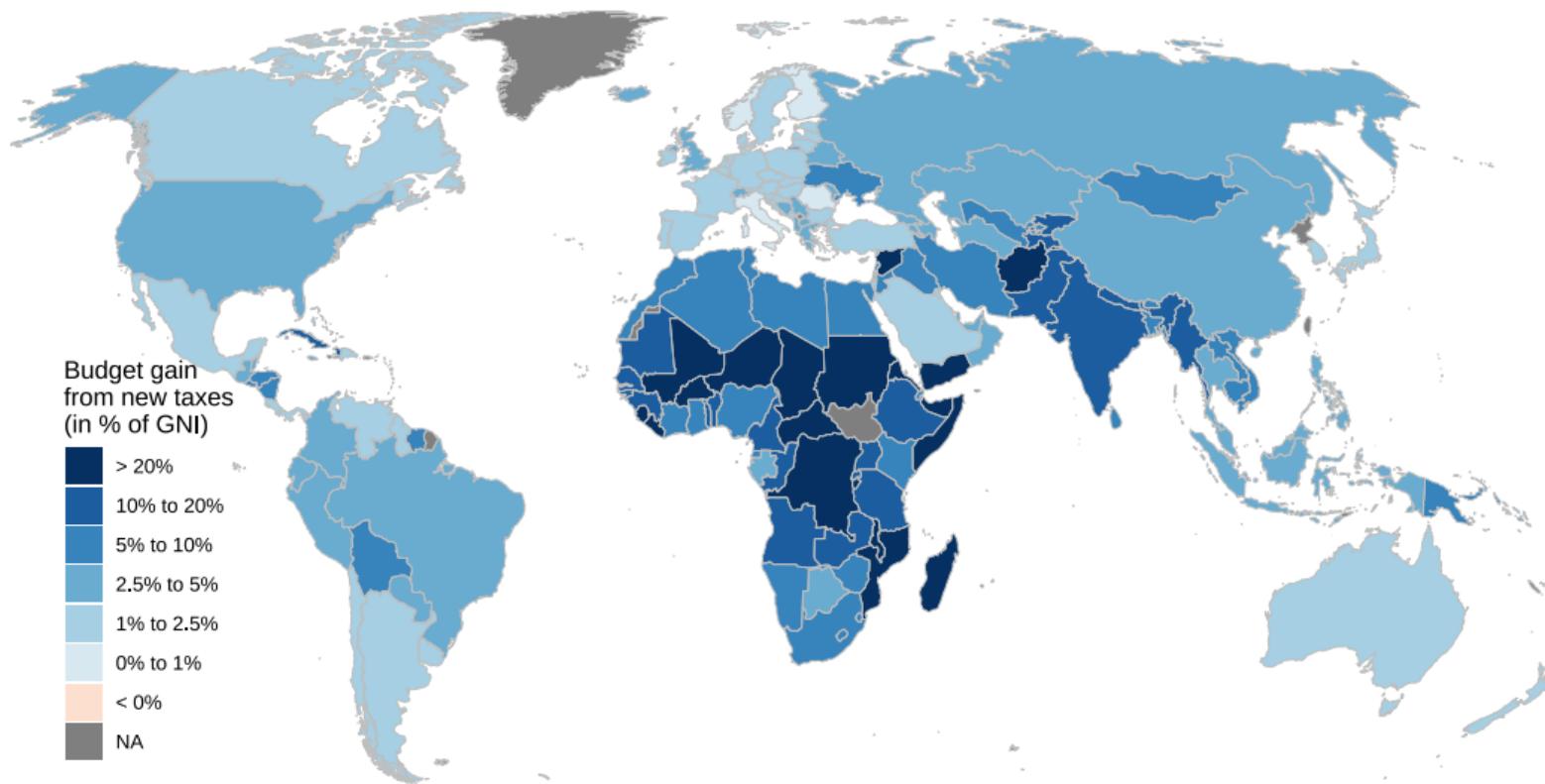
Towards an international tax system

Estimate of **revenue collected** by new global taxes (**in \$ billion per year**).

Financial Transactions Tax	Carbon price floor (10 \$/tCO ₂)	Maritime fuel levy (100 \$/tCO ₂)	Aviation fuel levy (300 \$/tCO ₂)	Corporate income tax (at 21%)	Tax on ultra-high wealth (3% above \$100M)	National wealth Tax (2% above \$5M)	Total
327	356	104	223	299	765	1,364	3,438

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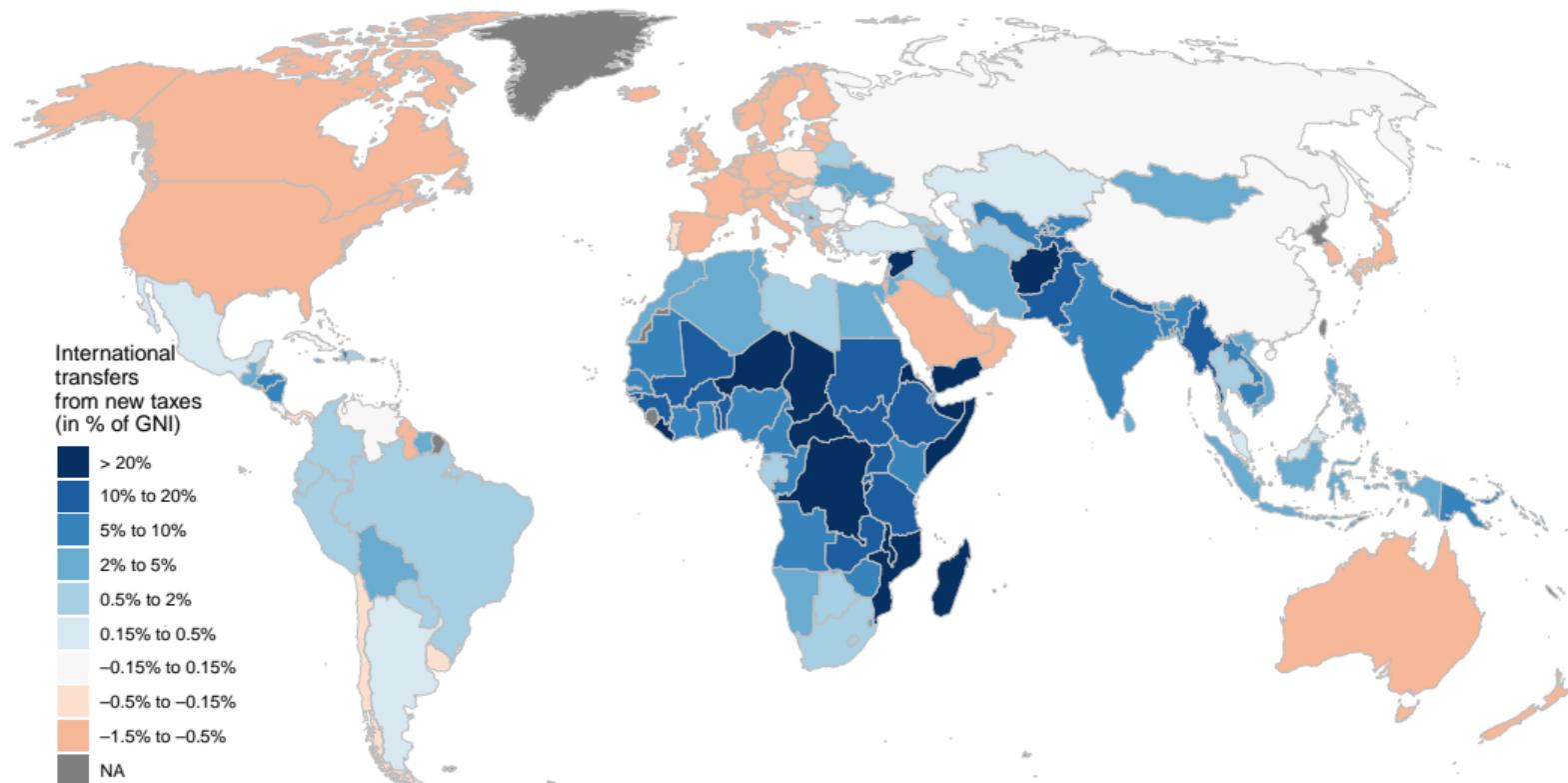
Net gain for state budgets from new taxes and transfers (revenue + net transfer): All countries' govts gain.



Towards an international tax system

International transfers to be financed by new global taxes.

The instruments proposed entail **North-South transfers of \$766 billion** per year.



A pragmatic treaty

Three key figures to negotiate:

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Revenues from new taxes, e.g. 2% of GDP.

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Flexibility and conditional cooperation:

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Net contribution of a HIC reduced if other HICs do not participate.

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A country can condition its participation to the participation of sufficiently many others.

What next?

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Design a precise plan acceptable by most countries.

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Foster an international coalition to **campaign** on this plan.

Thank you for attention!

For further information:

From Global Policies to Phase Out Fossil Fuels To a Sustainable Union
Majority Support for Global Climate and Redistributive Policies
(*Nature Human Behaviour*; Fabre, Douenne & Mattauch; 2025)

Book: bit.ly/bookGCP
(free, preface by Gabriel Zucman)

A GLOBAL PLAN
TO
END CLIMATE CHANGE
AND EXTREME POVERTY

@adrien_fabre

Correspondence between rights and differentiated prices

Correspondence between rights in uniform price (U) and differentiated prices (A)

► Go back

Static case. p : carbon price; r_i : i 's emission rights; $\pi_i = p_i/p$: differentiated price factor in i ; $e_i = e_i(p)$: emissions in country i ; $\varepsilon = -\frac{de_i/e_i}{dp/p}$: price elasticity of emissions:

$$r_i - e_i \sim (1 - \pi_i) e_i \varepsilon$$

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Dynamic Hotelling, homothetic case: Assume $p_{it} = \pi_i p_t$, $r_{it} = r_i r_t$;
fixed carbon budget, perfect foresight \Rightarrow discounted price is constant: $\beta_t p_t = p_0$.
Capital letters denote intertemporal sums.

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General dynamic case: no immediate relation between i 's carbon budget R_i and its welfare: the price trajectory matters \Rightarrow equivalence can be computed numerically.

Support for global justice policies

International surveys with a focus on the West

» Go back

Global survey (02/2021–02/2022) by [Dechezleprêtre et al. \(2022\)](#), *American Economic Review*

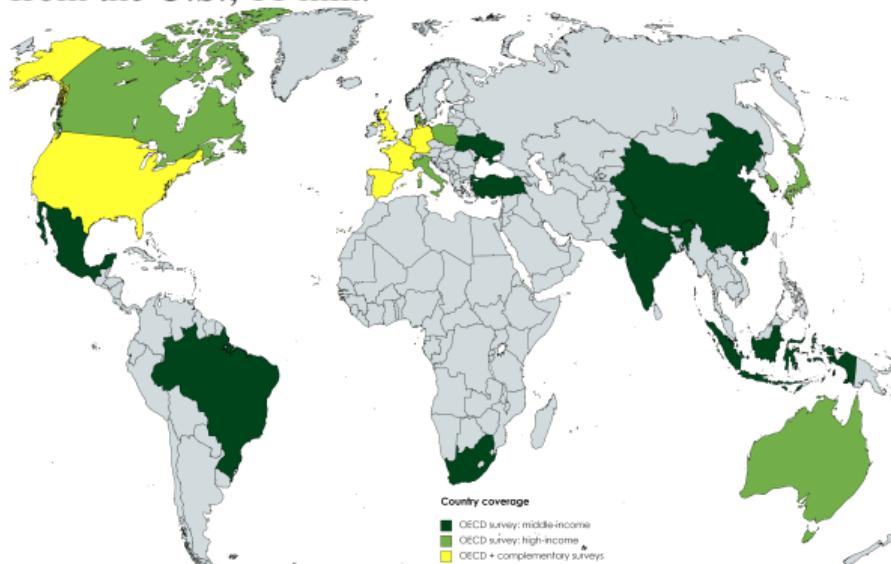
20 countries; 2,000 respondents per country; median duration: 28 min.

Complementary surveys (01–04/2023) by [Fabre, Douenne & Mattauch \(2023\)](#) – bit.ly/Fabre2023

Eu: 3,000 respondents from France, Germany, Spain, UK; 20 min.

US1: 3,000 respondents from the U.S.; 14 min.

US2: 2,000 respondents from the U.S.; 11 min.



The Global Climate Scheme (GCS) [» Go back](#)

Our main policy of interest is the GCS, a **global emissions trading system funding a global basic income:**

At the Paris agreement in 2015, all countries have agreed to contain global warming “well below +2 °C”. To limit global warming to this level, **there is a maximum amount of greenhouse gases we can emit globally.**

To meet the climate target, a limited number of permits to emit greenhouse gases can be created globally. Polluting firms would be required to buy permits to cover their emissions. Such a policy would **make fossil fuel companies pay** for their emissions and progressively raise the price of fossil fuels. **Higher prices would encourage people and companies to use less fossil fuels, reducing greenhouse gas emissions.**

In accordance with the principle that each human has an equal right to pollute, the revenues generated by the sale of permits could finance a global basic income. **Each adult in the world would receive \$30/month**, thereby lifting out of extreme poverty the 700 million people who earn less than \$2/day.

The typical [American] would lose out financially [\$85] per month (as he or she would face [\$115] per month in price increases, which is higher than the \$30 they would receive).

The policy could be put in place as soon as countries totaling more than 60% of global emissions agree on it. Countries that would refuse to take part in the policy could face sanctions (like tariffs) from the rest of the World and would be excluded from the basic income.

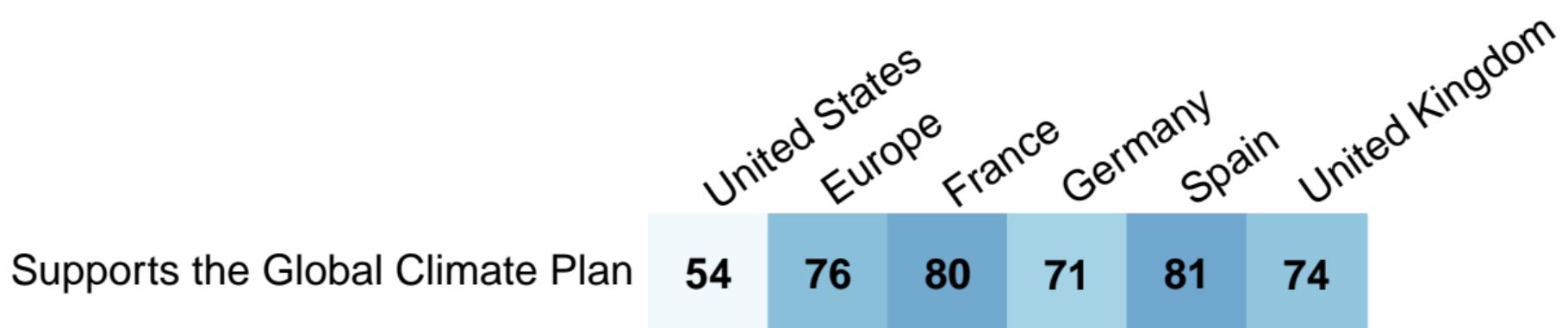
Support for the Global Climate Plan

[» Go back](#)

Global Climate Plan: a global emissions trading system that would finance an equal cash transfer of \$30 per month to every human.

We specify the net costs (e.g. \$85 per month in the U.S., € per month in Germany).

Do you support...? Yes/No (Percentage of Yes) [» Perceptions](#) [» Complementary policies](#) [» By vote](#) [» National policies](#)



Sincerity of the support for the GCS

List experiment

[» Go back](#)

We ask *Among the policies below, how many do you support?*, randomly varying the list of policies. The difference in mean number of supported policies for lists with and without the GCS should equal the support for GCS. If the tacit support is lower, it may indicate a social desirability bias.

List experiment

[Go back](#)

We ask *Among the policies below, how many do you support?*, randomly varying the list of policies. The difference in mean number of supported policies for lists with and without the GCS should equal the support for GCS. If the **tacit support** is lower, it may indicate a **social desirability bias**.

	Number of supported policies		
	All	U.S.	Europe
List contains: GCS	0.624*** (0.028)	0.524*** (0.041)	0.724*** (0.036)
<i>Support for GCS</i>	0.65	0.542	0.757
<i>Social desirability bias</i>	-0.026	-0.019	-0.033
<i>80% C.I. for the bias</i>	[-0.06; 0.01]	[-0.07; 0.04]	[-0.08; 0.01]
Constant	1.317	1.147	1.486
Observations	6,000	3,000	3,000
R ²	0.089	0.065	0.125

Note:

*p<0.1; **p<0.05; ***p<0.01

⇒ No (significant) social desirability bias.

Conjoint analyses: influence on electoral prospects

[Go back](#)

Choice between a conservative platform and a progressive platform with/without the GCS.

Imagine if the two favorite candidates in your constituency in the next general election campaigned with the following policies in their party's platforms.

Which of these candidates would you vote for?

Candidate A	Candidate B
Windfall tax on oil companies	Cut the burden of tax on business
Ban the sale of new combustion-engine cars by 2030	£100 billion for infrastructures like road and rail
£150 billion to upgrade schools, hospitals, care homes and council houses	Tougher sentencing for the worst offenders and 10,000 more prison places
National redistribution scheme	Strict enforcement of immigration and border legislation
Global climate scheme	

Candidate A

Candidate B

None of them

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Candidate A

Candidate B

None of them

Conjoint analyses: influence on electoral prospects [» Go back](#)

Table 1: Imagine if the [Democratic and Republican presidential candidates in 2024] campaigned with the following policies in their platforms. [Credible Progressive and Conservative platforms]

Which of these candidates would you vote for? *A; B; None of them*

[FR: second round of presidential; DE, ES, UK: two favorite candidates in one's constituency]

	Prefers the Progressive platform					
	All	United States	France	Germany	UK	Spain
GCS in Progressive platform	0.028* (0.014)	0.029 (0.022)	0.112*** (0.041)	0.015 (0.033)	0.008 (0.040)	-0.015 (0.038)
Constant	0.623	0.604	0.55	0.7	0.551	0.775
Observations	5,202	2,619	605	813	661	504
R ²	0.001	0.001	0.013	0.0003	0.0001	0.0003

Note: The 14% of *None* answers have been excluded from the regression samples. GCS has no significant influence on them.

A progressive candidate would not lose votes by endorsing the GCS, and could even gain 11 p.p.*** in France.

Conjoint analyses: influence on preferred platform (UK) [» Go back](#)

Imagine that the Labour wins the next elections. Here are two possible platforms on which it may campaign (the policies in each platform are randomly drawn from a pool of credible Labour policies).
(...) which of these platforms do you prefer?

Climate policy:

Ban of most polluting vehicles in city centers (low-emission zones)

Thermal insulation plan

Ban the sale of new combustion-engine cars by 2030

Economic issues:

£150 billion to upgrade schools, hospitals, care homes and council houses

Real Living Wage of £11 per hour for all workers aged 16 and over

Reduce the average full-time weekly working hours to 32

Re-establish neighbourhood policing and recruit 2,000 more frontline officers

Foreign policy:

Global climate scheme

Global tax on millionaires

Global democratic assembly on climate change

Doubling foreign aid

Societal issues:

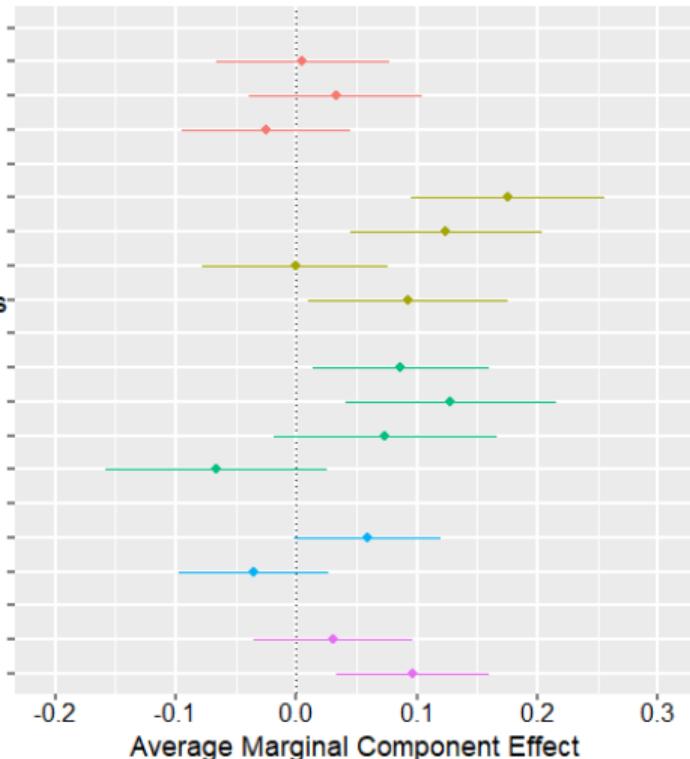
Strict enforcement of immigration and border legislation

Legalization of cannabis

Tax system:

National redistribution scheme

Wealth tax



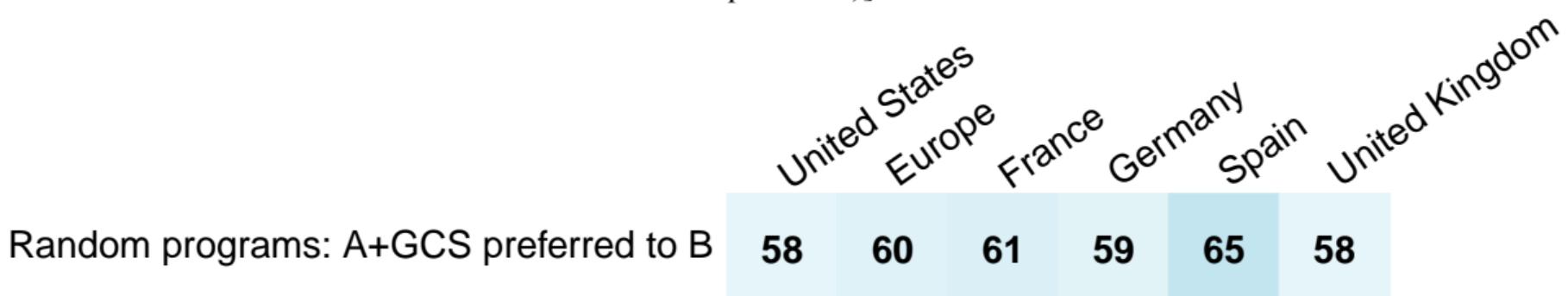
Conjoint analyses: influence on preferred platform

We ask the preference between two progressive platforms, where each measure is taken at random. The GCS is included in one of the platforms.

Imagine that a [Left or Center-left coalition wins the next elections]. Here are two possible platforms on which [the coalition] may campaign (the policies in each platform are randomly drawn from a pool of credible [Left/Center-left] policies).

Even if you do not support the Left, which of these platforms do you prefer?

[FR: Left or center-left; DE: rot-rot-grüne; ES: PSOE; UK: Labour; US: Democratic primary (*not asked to Republican*)]



Random programs: A+GCS preferred to B

58 60 61 59 65 58

⇒ Majorities prefer platforms that include the GCS.

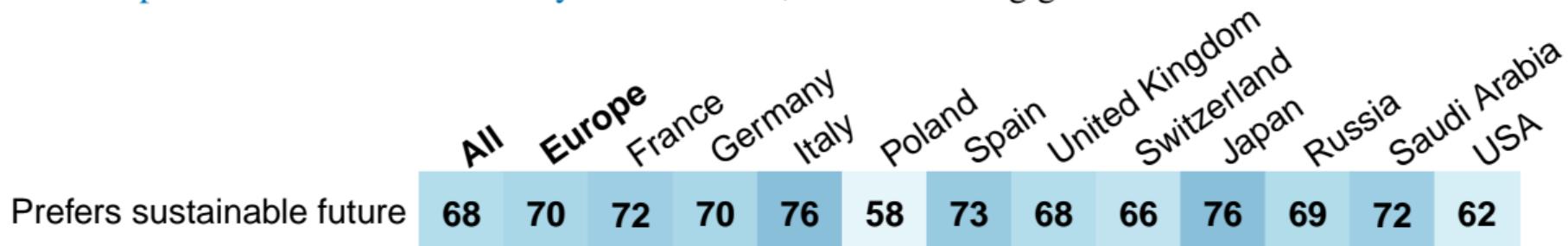
Sustainable future vs. status quo

Sustainable future:

- Worldwide policies to limit global warming to +2°C and reduce inequality.
- Reduced global carbon emissions, in line with climate target.
- Taxes on millionaires funding heat pumps, building insulation, and public transport.
- All cars electric by 2045, priced like today's gasoline cars.
- Heating fuel, air travel, and beef prices gradually double.
- Lower sales tax on non-polluting goods preserves overall purchasing power.

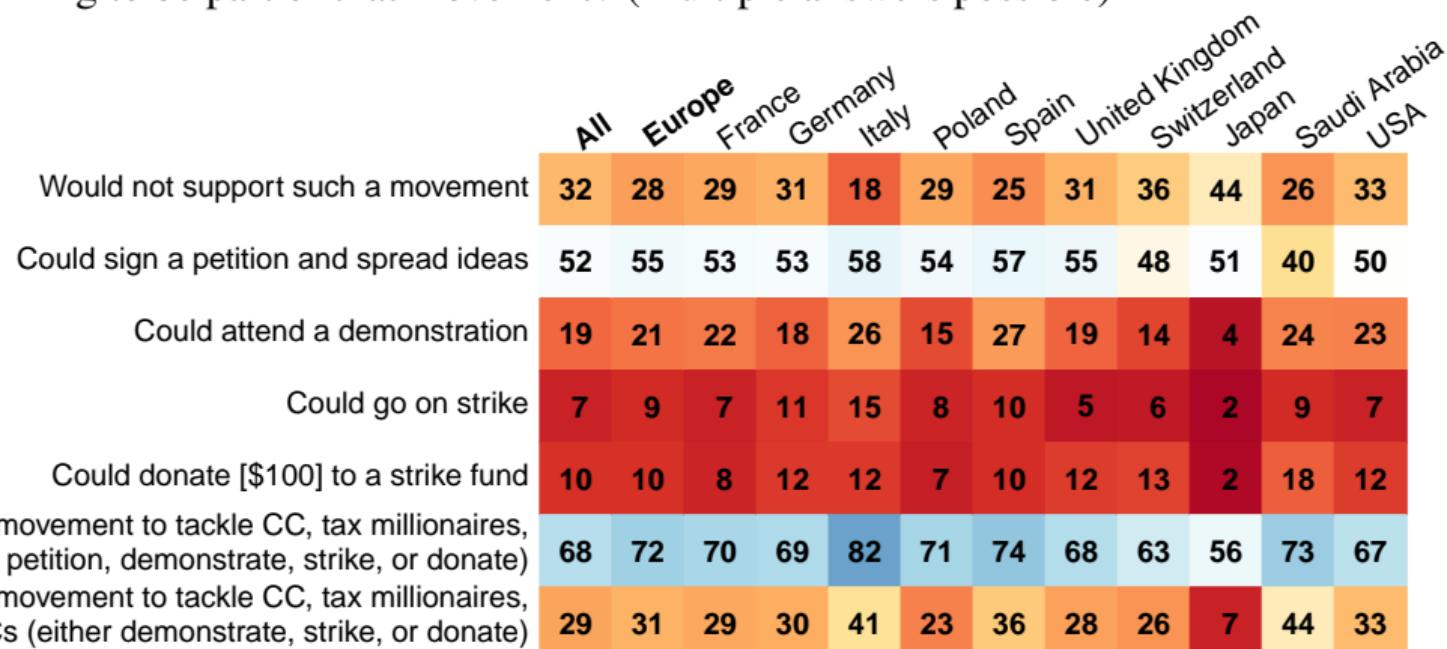
Status quo:

- No additional policies to address climate change or inequality.
- Stable carbon emissions. +3°C warming by 2100, causing more severe natural disasters.
- People maintain the same lifestyles as in 2025, such as driving gasoline cars.



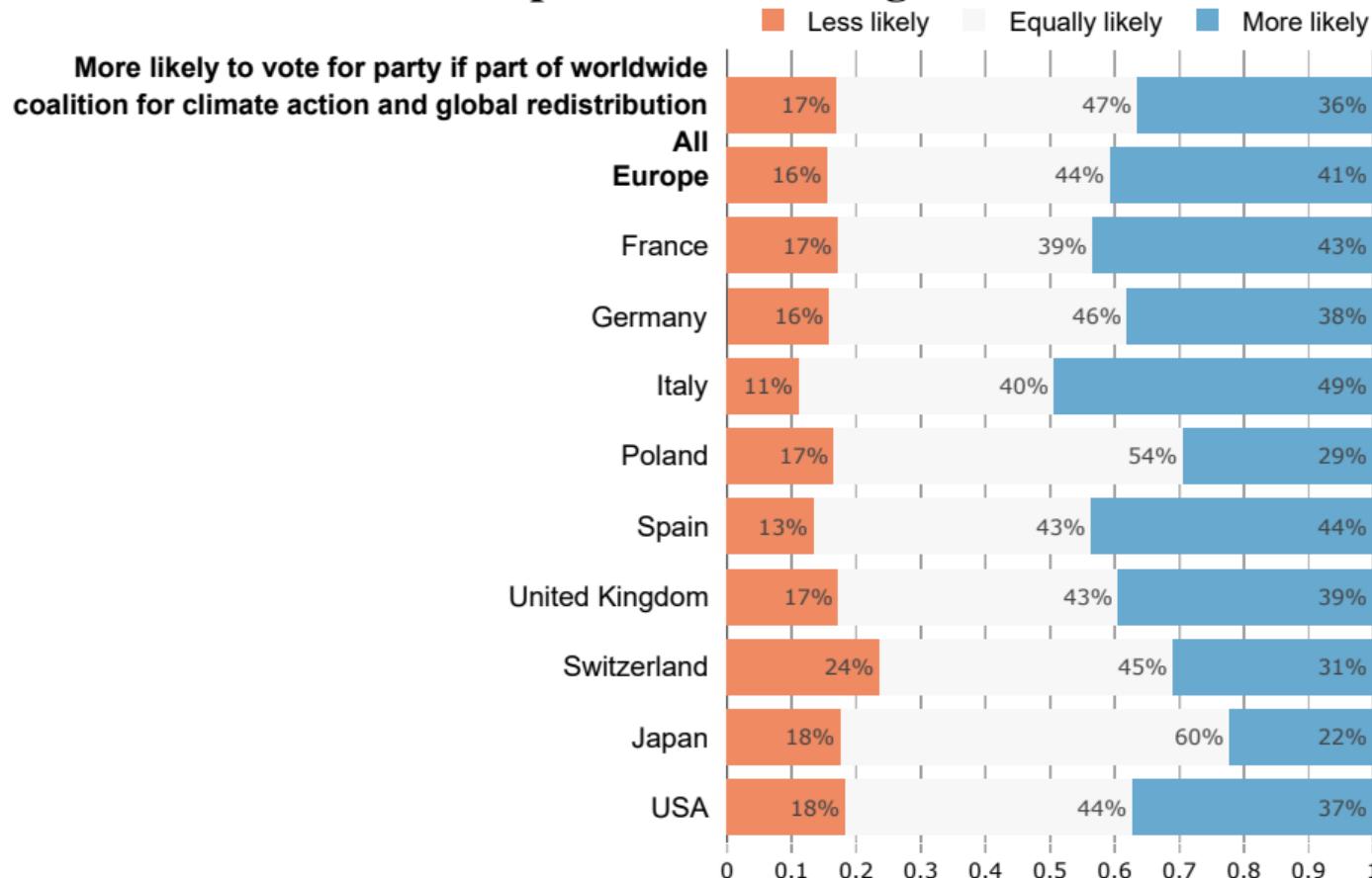
A humanist movement

If there was a worldwide movement in favor of a global program to tackle climate change, implement taxes on millionaires and fund poverty reduction in low-income countries, to what extent would you be willing to be part of that movement? (Multiple answers possible)



⇒ 52% of millionaires support the global movement.

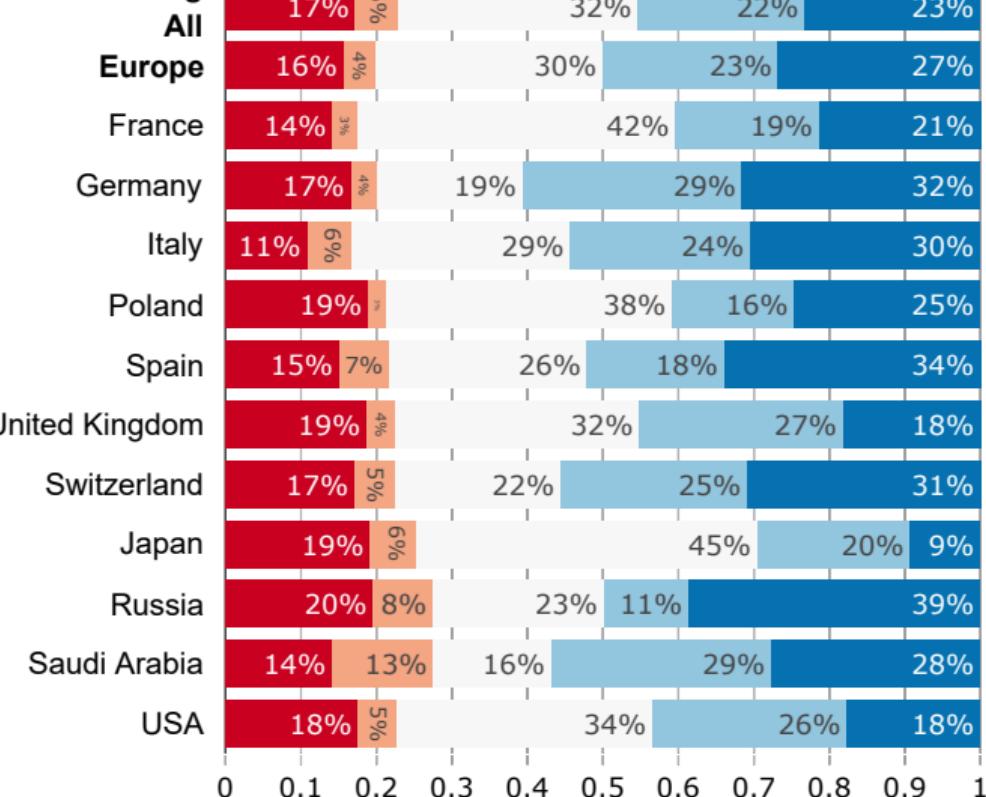
Importance on voting



Moral circle

■ Family and self ■ Community (region, gender...) ■ Fellow citizens ■ Humans ■ Sentient beings

Group defended when voting



Support for other global policies

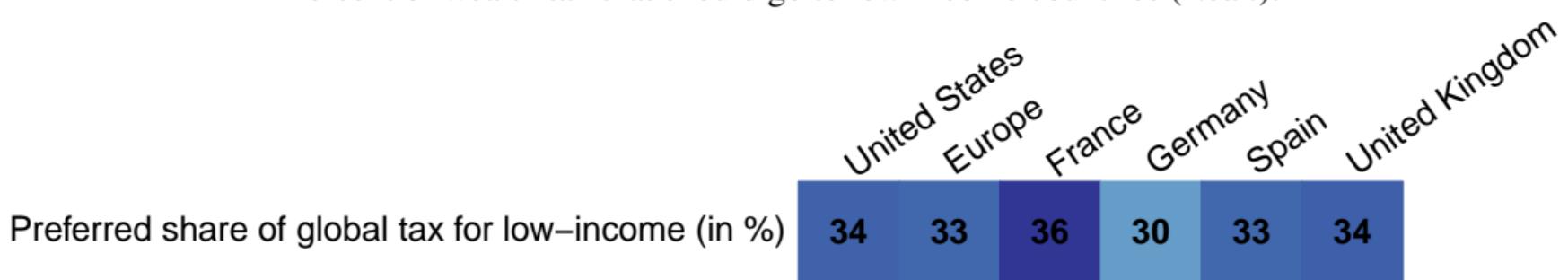
[Go back](#)

Do you support or oppose...? 5-Likert scale (Percentage of Support among non-Indifferent)

	United States	Europe	France	Germany	Spain	United Kingdom
Payments from high-income countries to compensate low-income countries for climate damages	55	71	72	70	79	70
High-income countries funding renewable energy in low-income countries	68	82	82	82	85	81
High-income countries contributing \$100 billion per year to help low-income countries adapt to climate change	60	76	77	79	79	71
Cancellation of low-income countries' public debt	46	53	53	43	62	61
Democratise international institutions (UN, IMF) by making a country's voting right proportional to its population	58	71	69	69	78	72
Removing tariffs on imports from low-income countries	62	73	58	73	80	83
A minimum wage in all countries at 50% of local median wage	63	80	80	78	81	83
Fight tax evasion by creating a global financial register to record ownership of all assets	62	87	90	86	91	87
A maximum wealth limit of \$10 billion (US) / €100 million (Eu) for each human	46	62	58	62	65	67
National tax on millionaires funding public services	73	85	81	87	89	88
Global tax on millionaires funding low-income countries	69	84	84	84	87	83

We describe a global tax on wealth in excess of \$/€/£ 5 million who should get the revenues

Percent of wealth tax that should go to low-income countries (*mean*):



Support for increased foreign aid

[► Go back](#)

Actual, perceived and preferred amount of foreign aid, with random info (or not) on actual amount. (*Mean*)

	United States	Europe	France	Germany	Spain	United Kingdom
Actual foreign aid (in % of public spending)	0.4	1.1	0.8	1.3	0.5	1.7
Belief about foreign aid	4.7	2.9	2.7	2.9	2.8	3.5
Preferred foreign aid (with info)	1.8	2.7	3.4	2.9	2.1	2.5
Preferred foreign aid (no info)	4	3.9	4.7	4.4	3.1	3.4

Support for increased foreign aid

[» Go back](#)

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Support for increased foreign aid: from previous question, and directly asked (with info).

	United States	Europe	France	Germany	Spain	United Kingdom
Preferred foreign aid is at least as high as current	70	75	91	76	77	57
Preferred foreign aid is at least as high as perceived	57	74	83	79	77	58
Supports increasing foreign aid (incl. with conditions)	60	64	63	68	69	56

Actual foreign aid is overestimated.

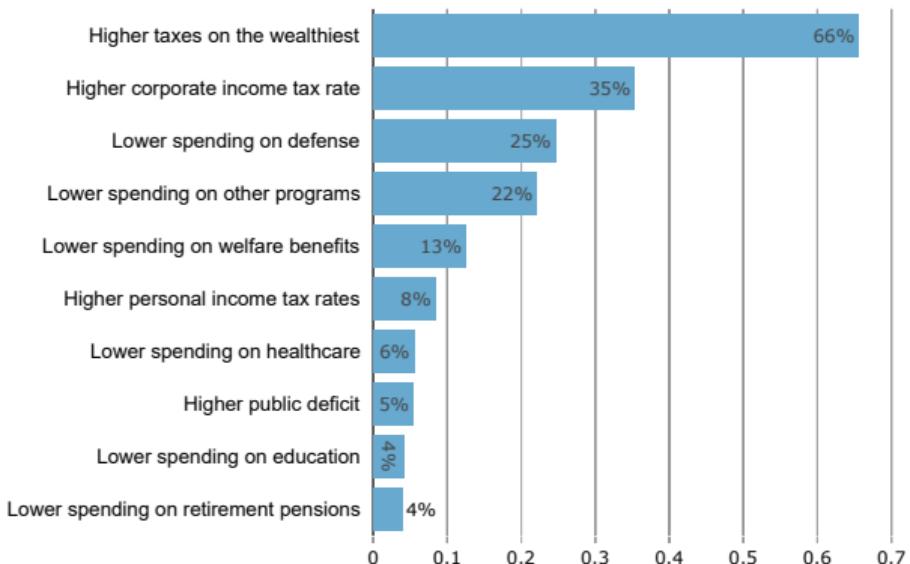
Majorities support more foreign aid.

Preferences over public spending

[» Go back](#)

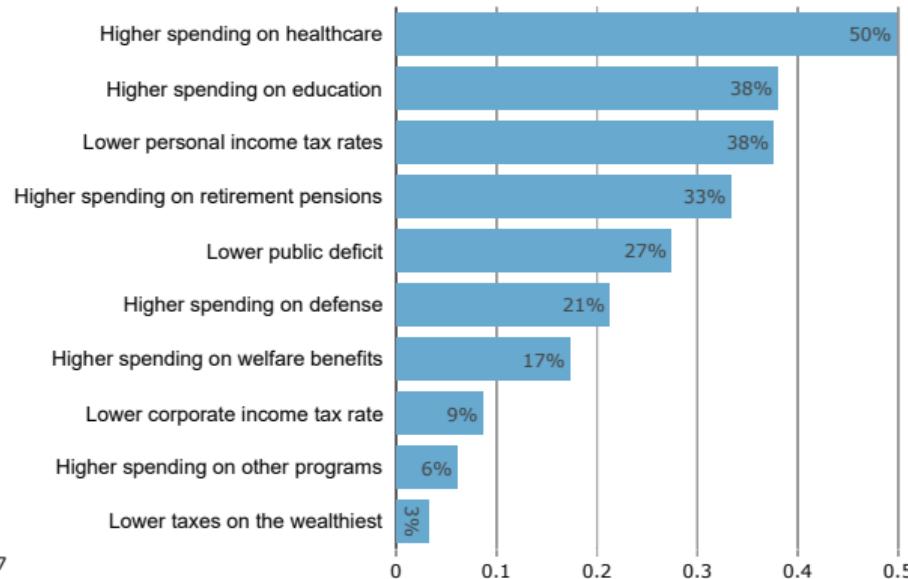
Your previous answer shows that you would like to increase [UK] foreign aid.

How would you like to finance such increase in foreign aid? (Multiple answers possible)



Your previous answer shows that you would like to reduce [UK] foreign aid.

How would you like to use the freed budget? (Multiple answers possible)

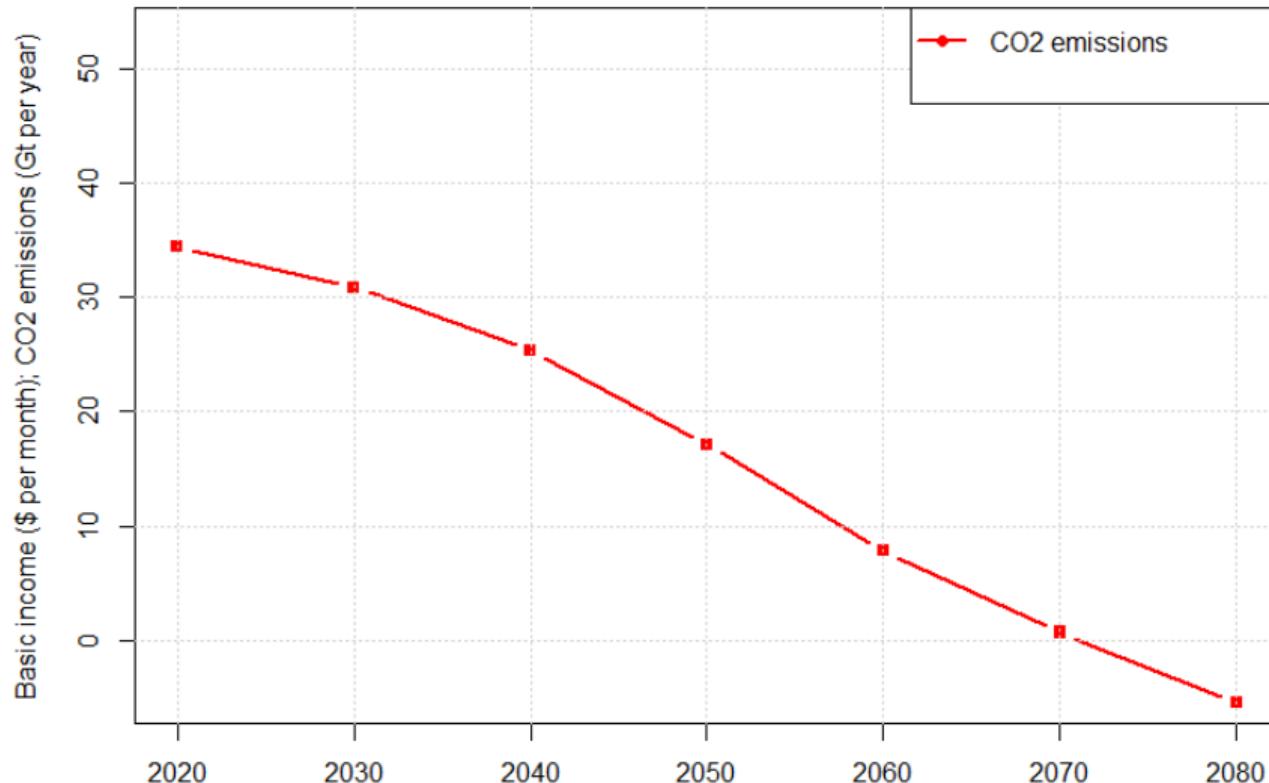


People want better public services and higher taxes on the wealthiest.

The Global Climate Plan

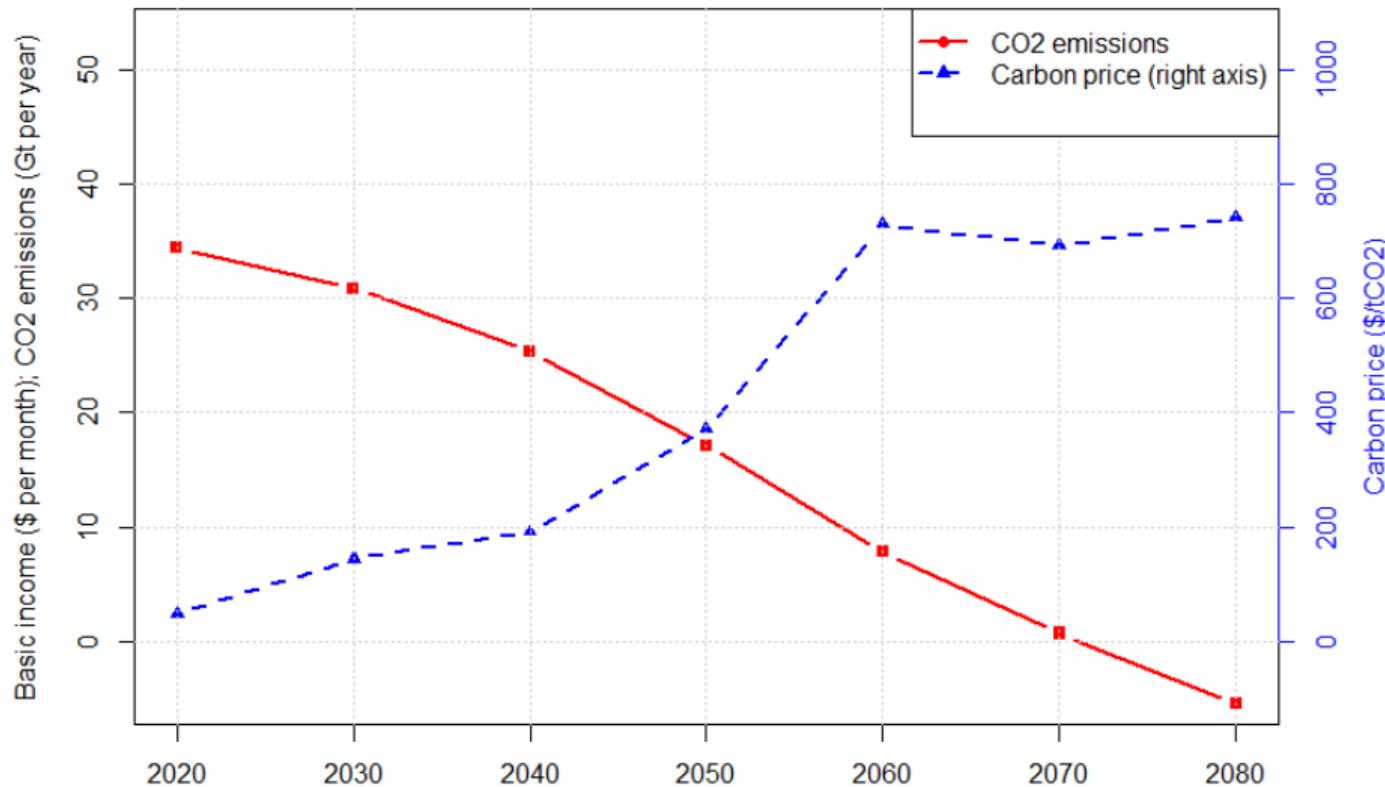
The trajectories

Global trajectories estimated for the Global Climate Plan (GCP)



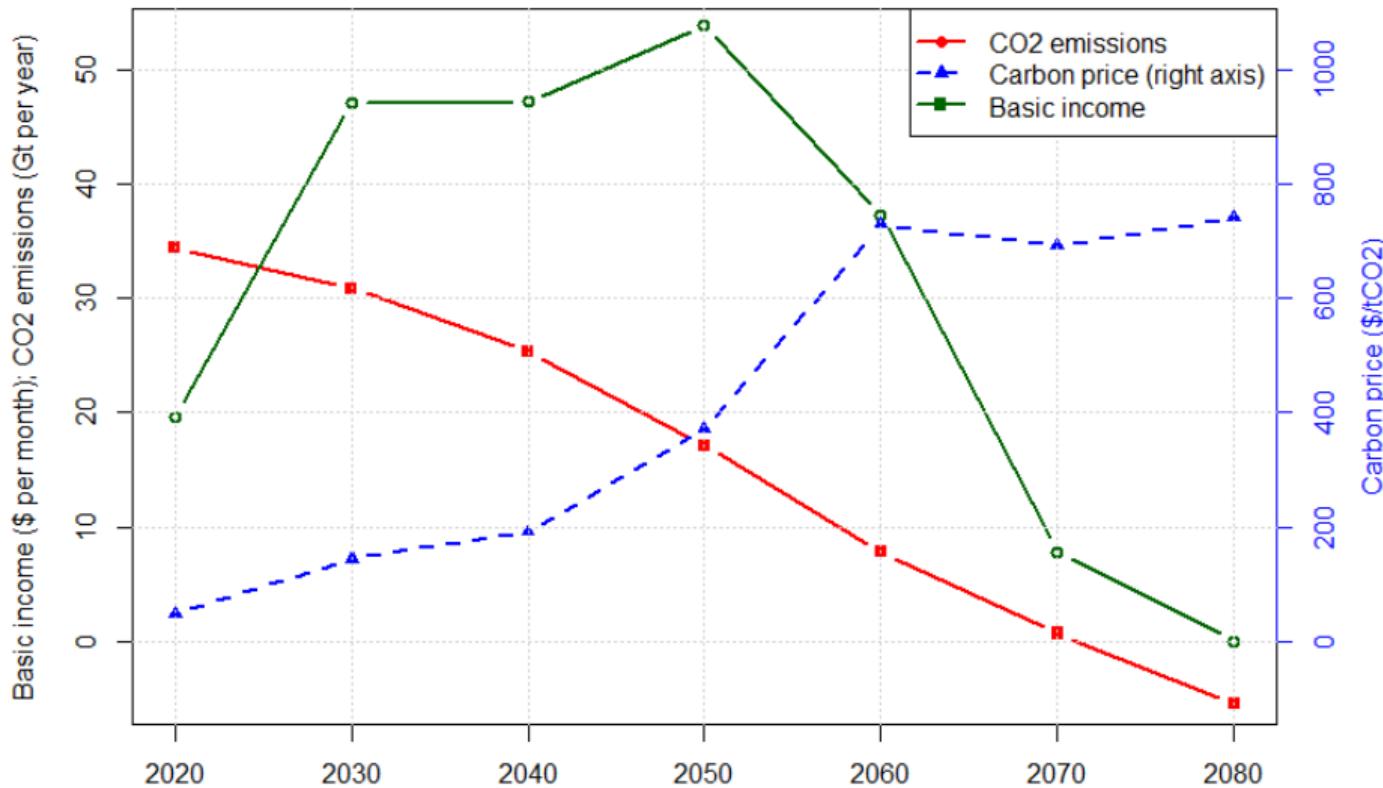
The trajectories

Global trajectories estimated for the Global Climate Plan (GCP)



The trajectories

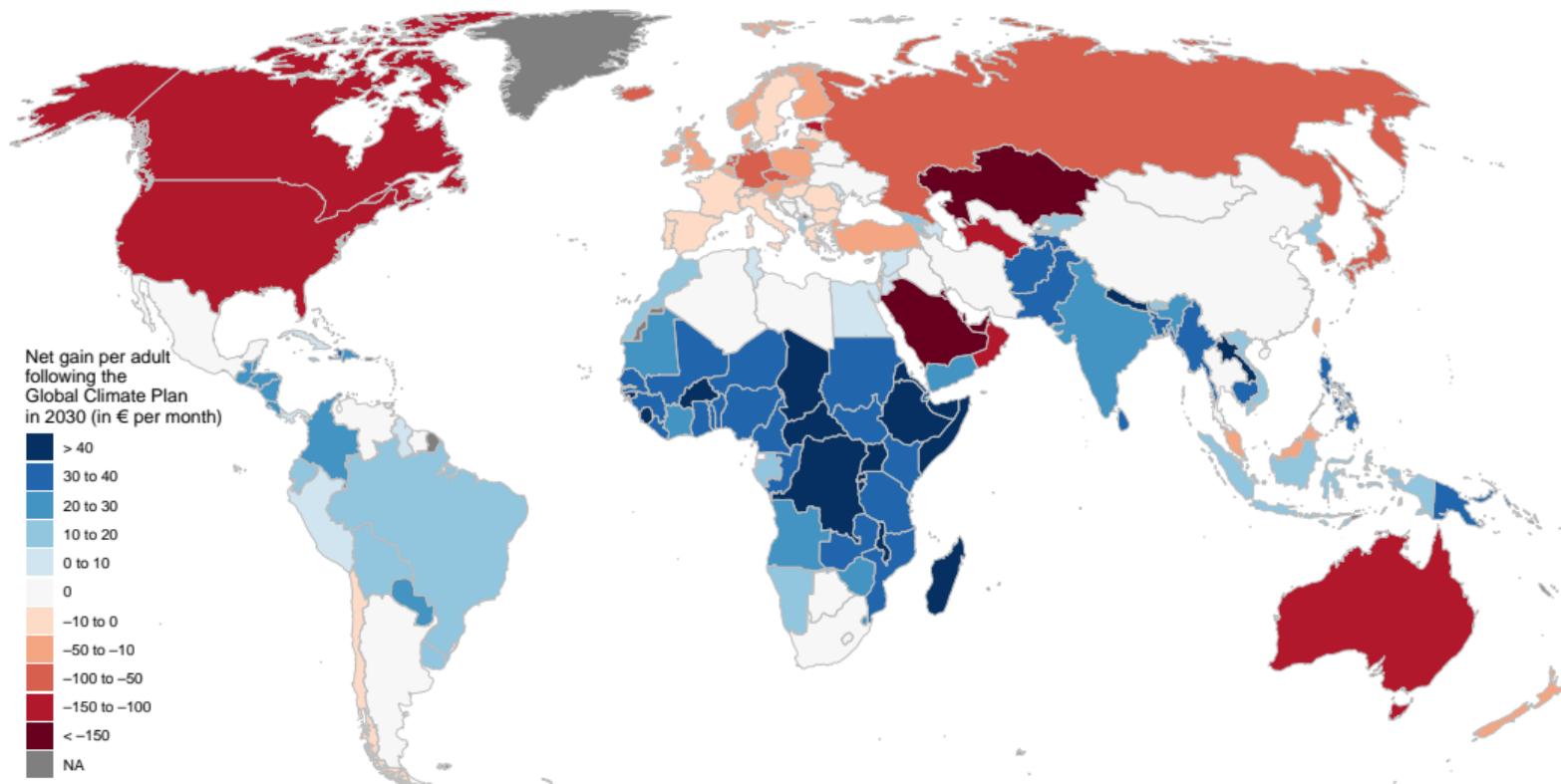
Global trajectories estimated for the Global Climate Plan (GCP)



The distributive effects

[Go back](#)

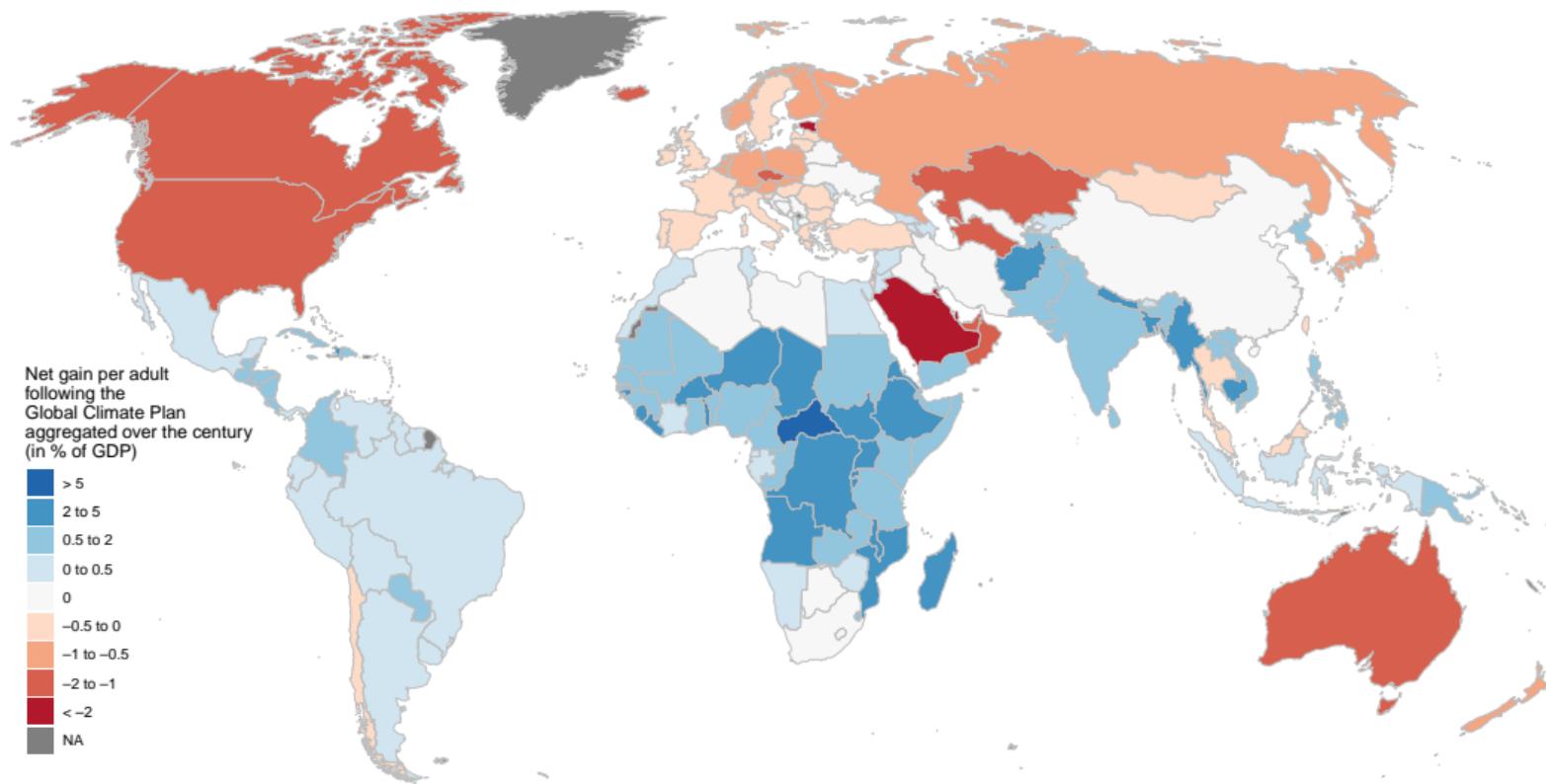
Distributive effects of the Global Climate Plan in 2030. [More maps](#)



The distributive effects

[Go back](#)

Distributive effects of the Global Climate Plan throughout the century. [More maps](#)



Scenarios with non-universal participation

[► Go back](#)

Table 2: Main features of different scenarios of climate union.

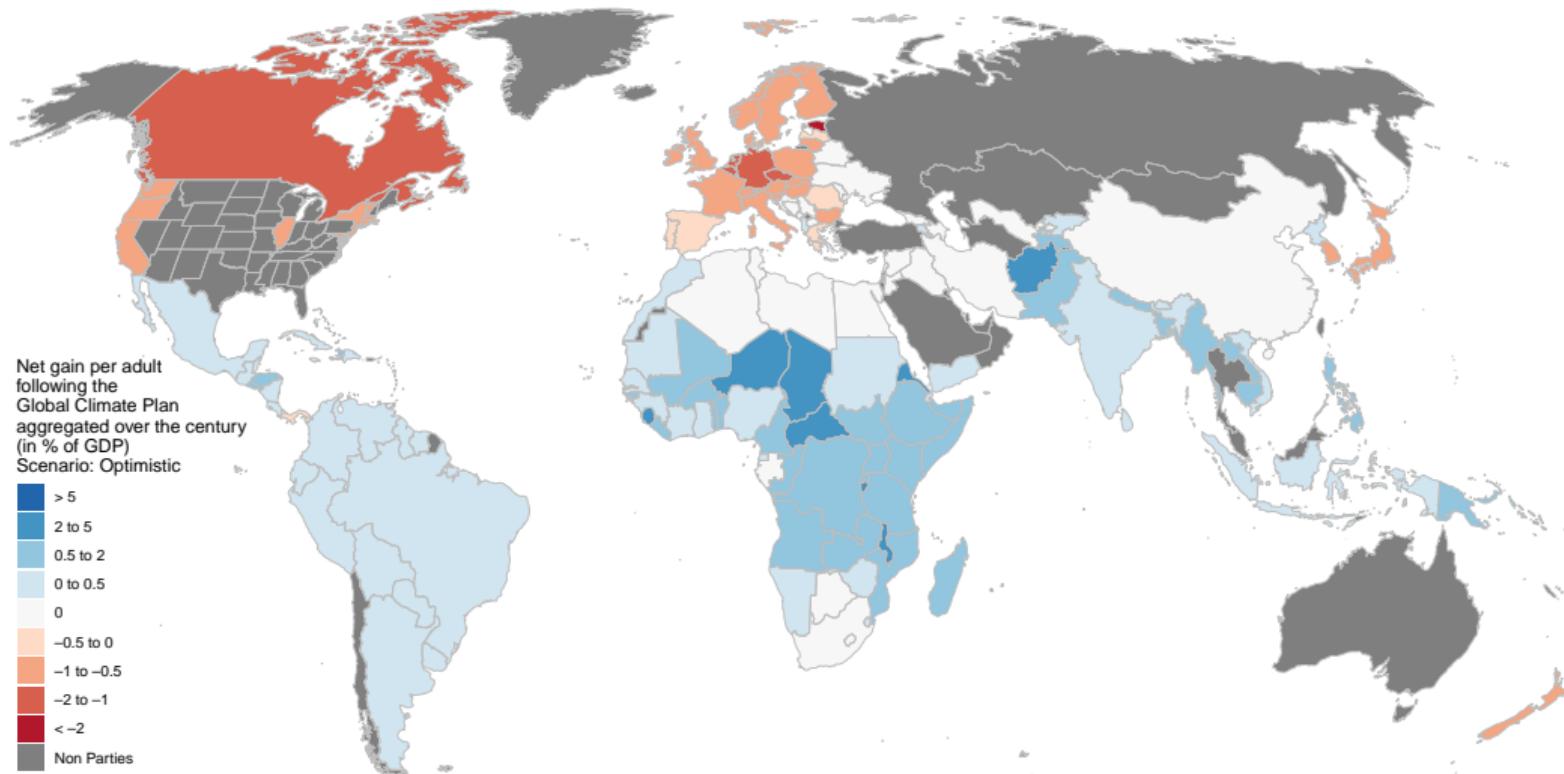
Union scenario	Emissions covered	Population covered	Basic income in 2040 ($\text{€}/\text{month}$)	EU loss in 2040 (share of its GDP)	Temperature increase in 2100 (in $^\circ\text{C}$)
All countries	100%	100%	44	0.6%	1.8
All but OPEC	90%	97%	39	0.6%	1.9
Optimistic	74%	91%	28	0.8%	2.0
Central	67%	88%	23	0.9%	2.0
Prudent	63%	85%	20	0.9%	2.1
Africa EU	12%	23%	26	0.8%	2.5

Scenarios with non-universal participation

[▶ Go back](#)

Optimistic scenario.

Distributive effects of the Global Climate Plan throughout the century.



Scenarios with non-universal participation

[► Go back](#)

Prudent scenario.

Distributive effects of the Global Climate Plan throughout the century.

