

Public Understanding of Climate Change and Support for Mitigation

ESRI Webinar

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esri.ie/bru

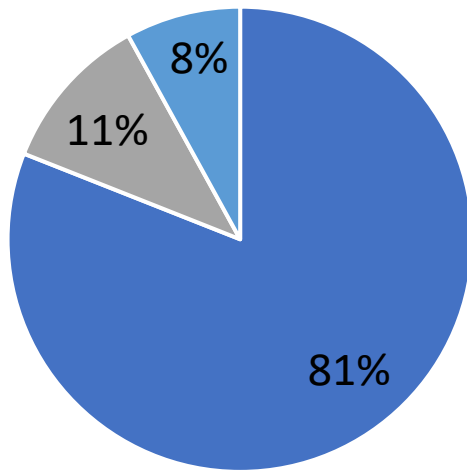
Research funded by:



Some polls...

How serious a problem do you think climate change is?

■ Very serious ■ Fairly serious ■ Not serious



Special Eurobarometer 513 on Climate Change (March-April 2021)

Poll shows high degree of public resistance to many potential climate action measures

Concern over climate change does not seem to translate into enthusiasm to combat it

© Fri, Oct 8, 2021, 07:30

Pat Leahy

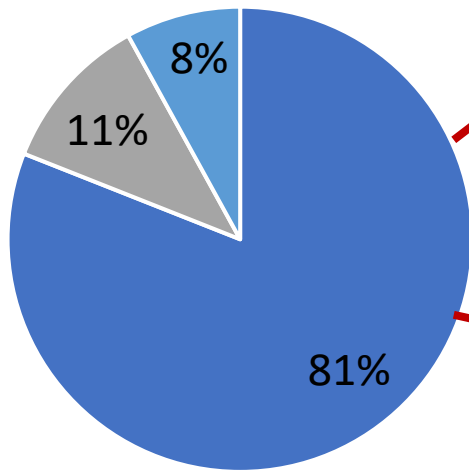


The strongest opposition recorded by the poll is over higher taxes on fuel and energy (82% opposed) and more expensive petrol/diesel cars (72%)

Some polls...

How serious a problem do you think climate change is?

■ Very serious
 ■ Fairly serious
 ■ Not serious



Special Eurobarometer 513 on Climate Change (March-April 2021)

Climate change

In order to tackle climate change, for each of the following, please tell me if you would personally support it or if you would be opposed to it?

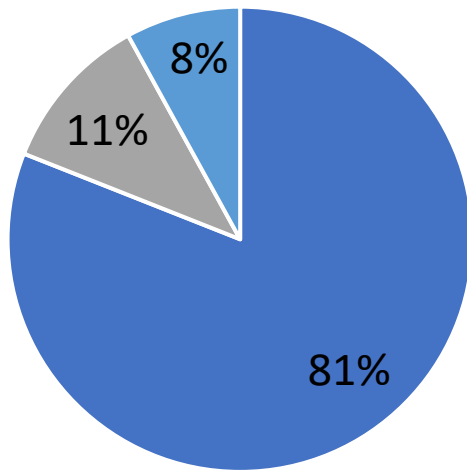
	Support	Oppose	Don't know/No opinion
Higher taxes on energy and fuel e.g. electricity, gas, petrol, diesel	14	82	4
Higher taxes on air travel	40	53	8
Running the risk of interruptions in electricity supply	13	81	6
A ban on building new data centres in Ireland	38	46	16
Reducing the size of the national cattle herd	25	60	15
Allowing more land to be used for wind energy/turbines	68	24	7
A nationwide ban on burning smoky fuels like coal & peat	45	49	6
Making it more expensive to buy petrol and diesel cars	23	72	5
Higher property taxes for homes that are not energy efficient	23	69	8

Table: IRISH TIMES GRAPHICS • Source: IPSOS/MRBI • Created with Datawrapper

Some polls...

How serious a problem do you think climate change is?

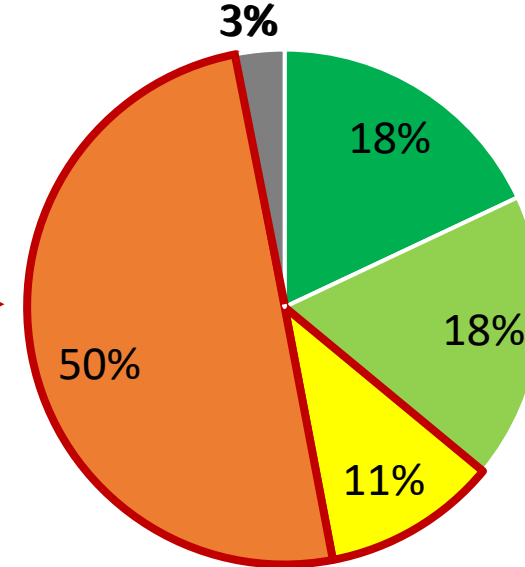
■ Very serious
 ■ Fairly serious
 ■ Not serious



Special Eurobarometer 513 on Climate Change (March-April 2021)

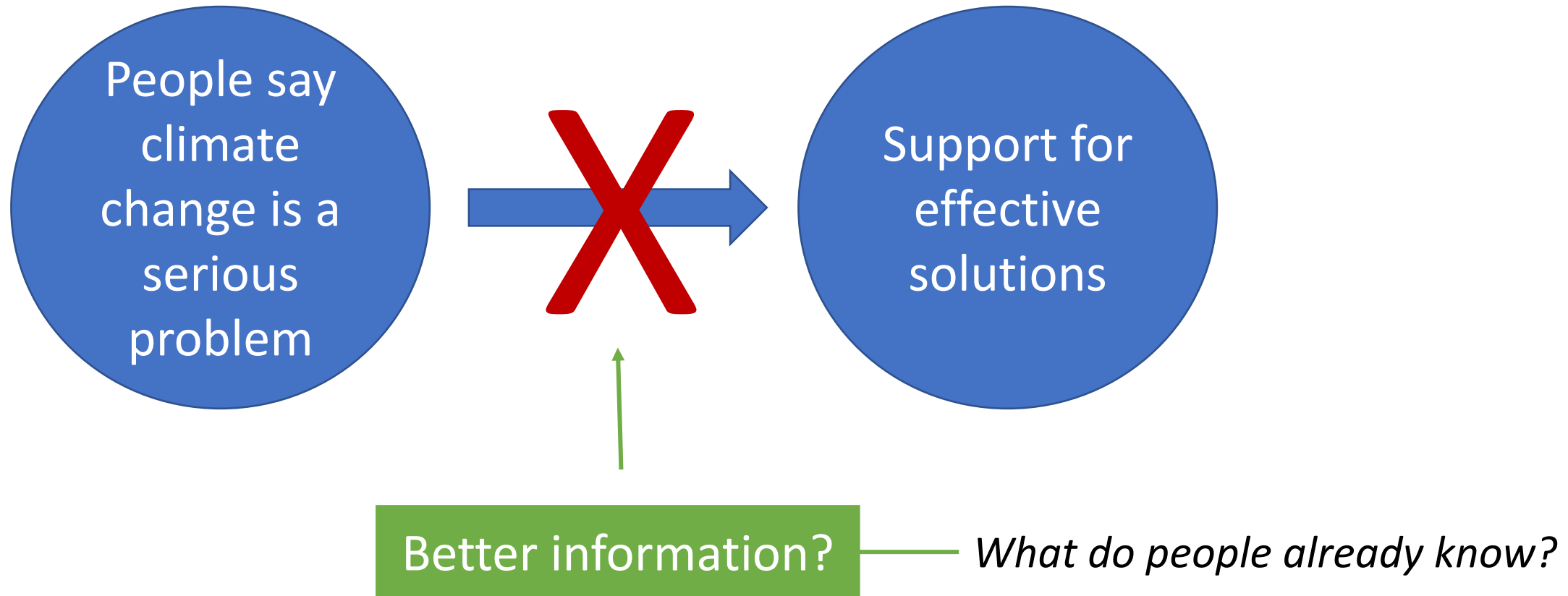
How often, if ever, have you chosen not to eat meat for environmental reasons? (past 12 months)

■ Often
 ■ Occassionally
 ■ Rarely
 ■ Never
 ■ Don't Know



Source: Leiserowitz et al. (2021) *Climate Change in the Irish Mind*

The Problem





Aims



(1) Provide the first measure of understanding of climate change among a representative sample of adults in Ireland



(2) Test the link between comprehension and willingness to change



ESRI Study Design

1

10-minute Climate Quiz

- Day-to-day causes, effects
- Ways to reduce impact
- Relative contribution of economy sectors
- Ireland vs. other countries
- Pace of change

Which of the following emit greenhouse gases while being pedalled/driven/flown? Select all that apply.

- Bicycles
- Diesel vehicles (e.g. cars)
- Electric vehicles (e.g. cars)
- Hybrid vehicles (e.g. cars)
- Petrol vehicles (e.g. cars)
- Planes

Below is a list of sectors of the economy. Please choose **3** that you think are responsible for **the most emissions in Ireland**.

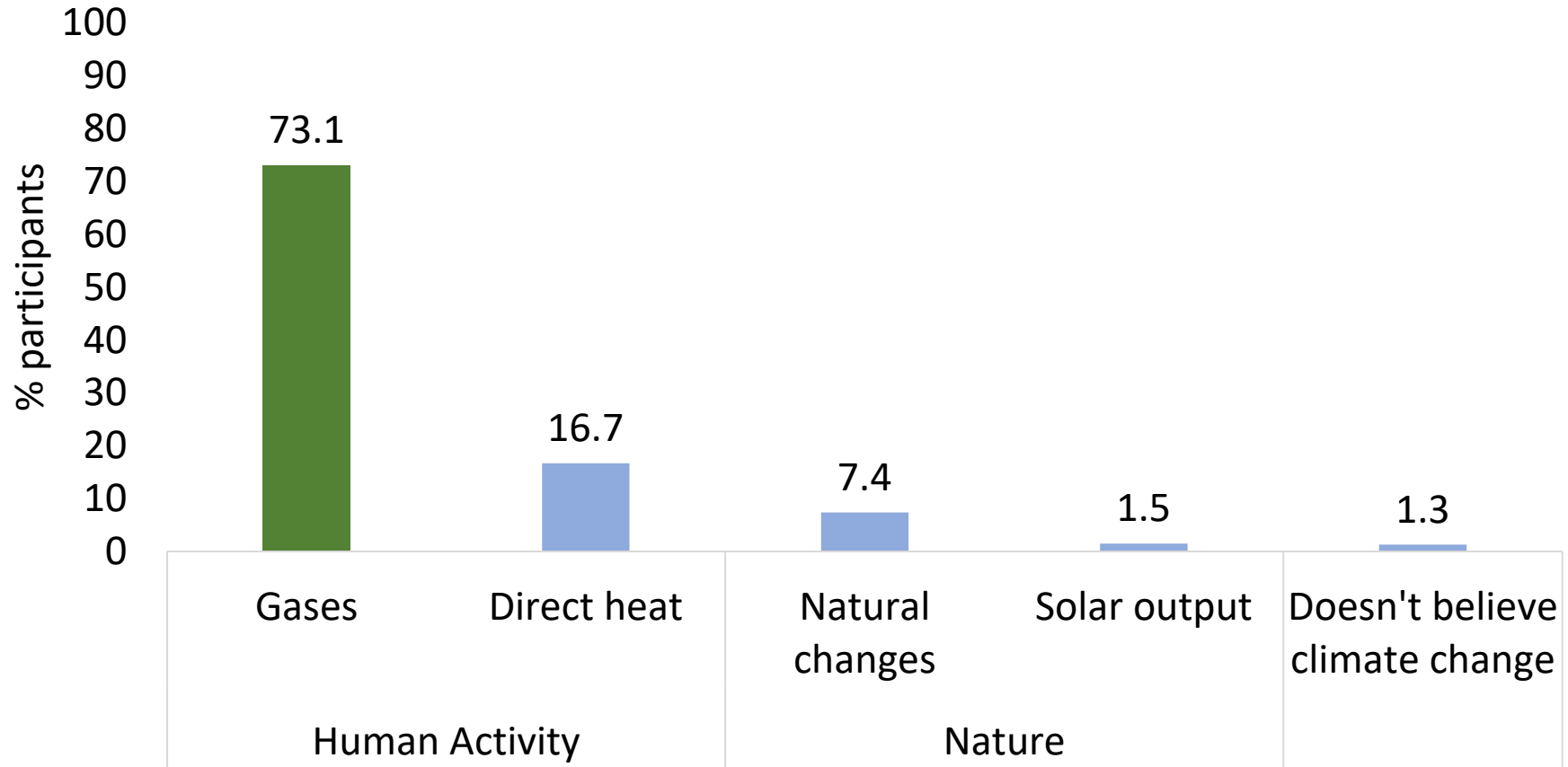
- Residential (e.g. household heating)
- Waste (e.g. refrigeration gases and landfill gases)
- Transport (e.g. emissions from cars)
- Industry and construction
- Agriculture (e.g. livestock)
- Energy (e.g. power generation)

How do you think the amount of greenhouse gas emissions per person in Ireland compares to other countries in Europe?

- Ireland is in the highest 25% of greenhouse gas emitters per person in Europe
- Ireland is in the highest 50% of greenhouse gas emitters per person in Europe
- Ireland is in the lowest 25% of greenhouse gas emitters per person in Europe

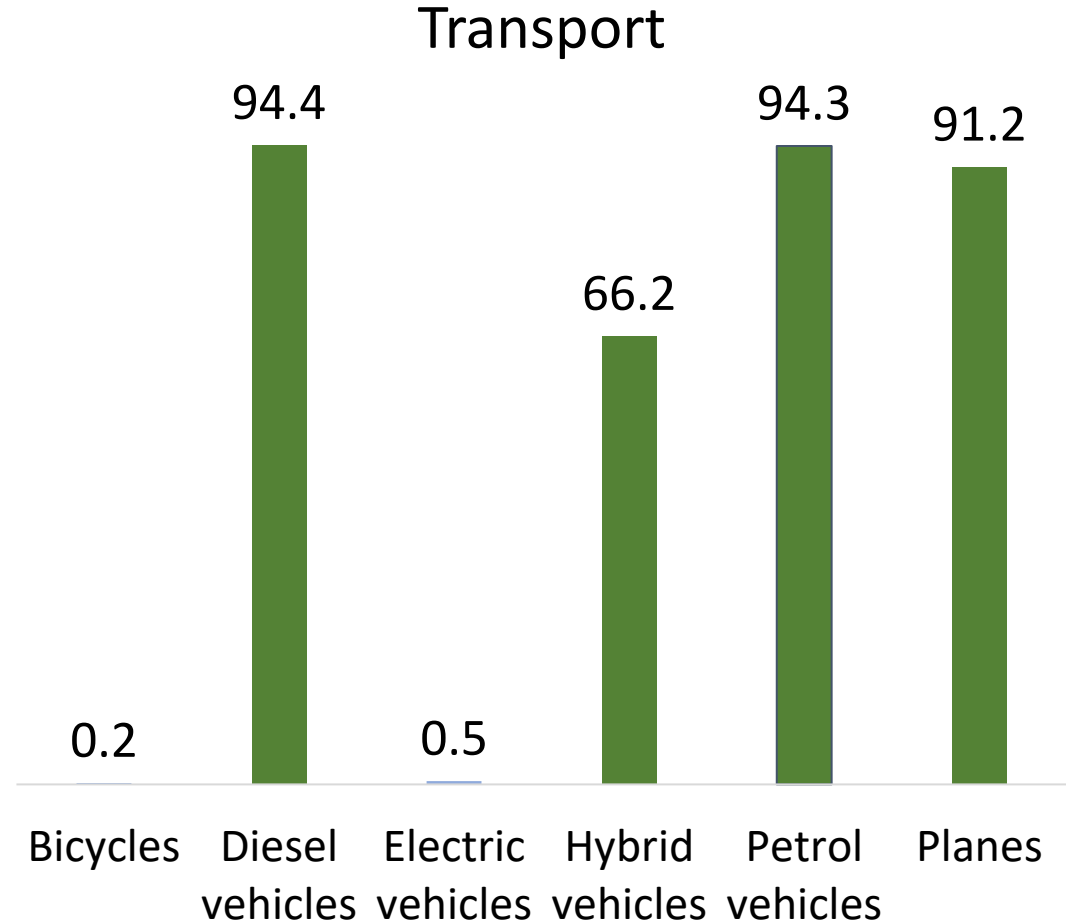
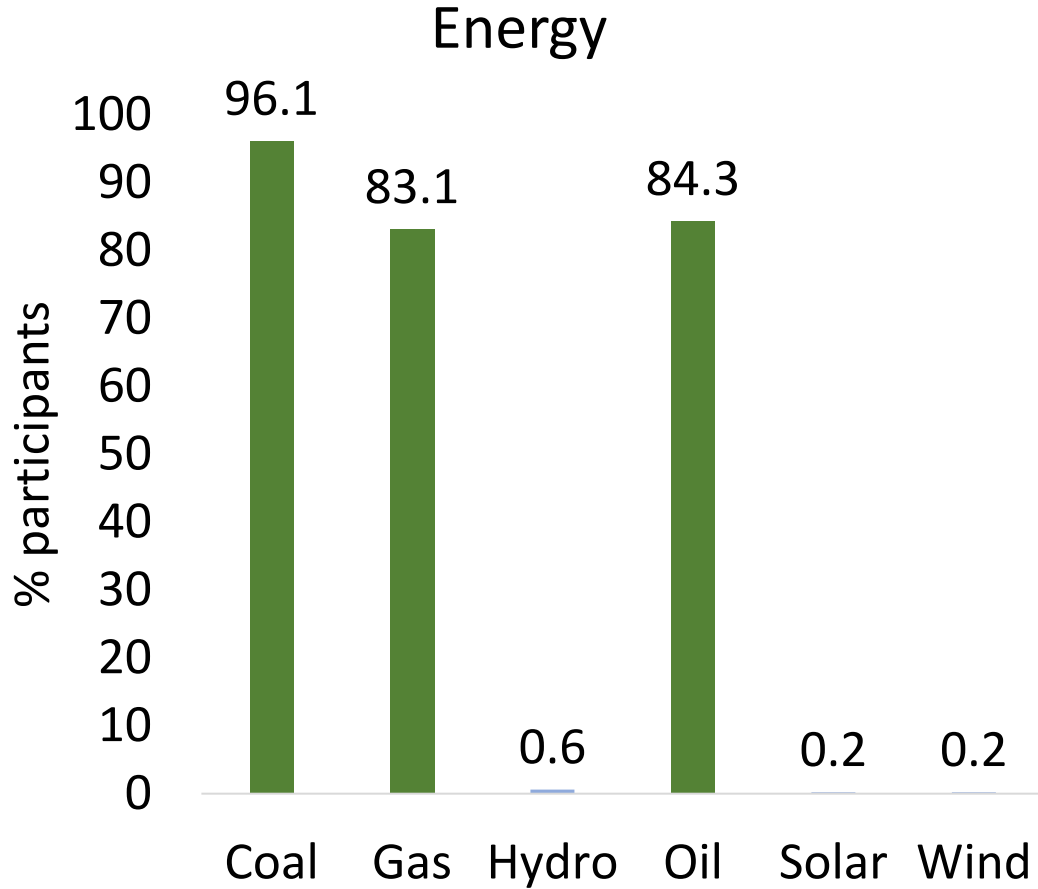


Why is Earth's atmosphere warming?



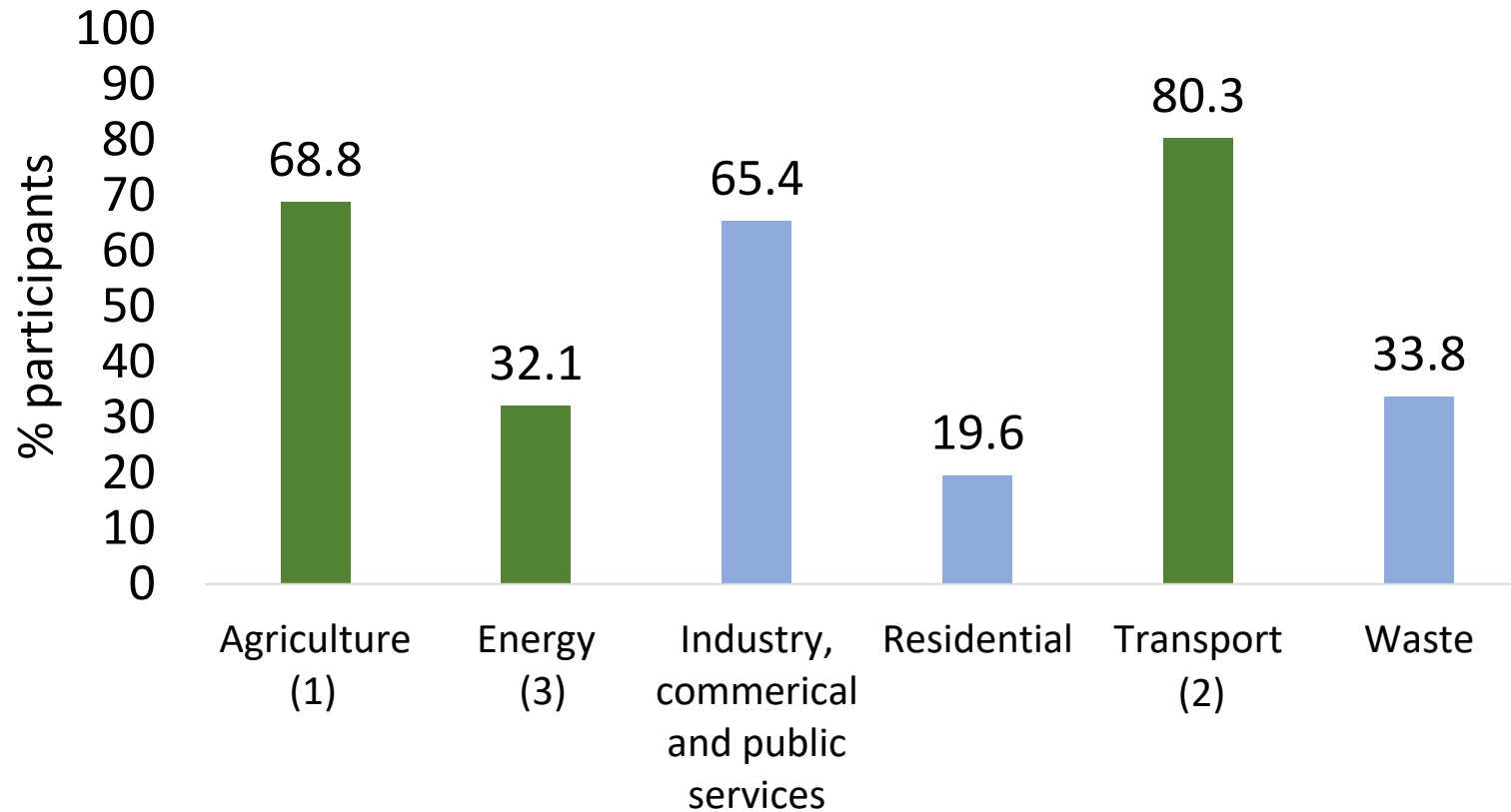


Which of the following emit greenhouse gases?



Sectoral contributions

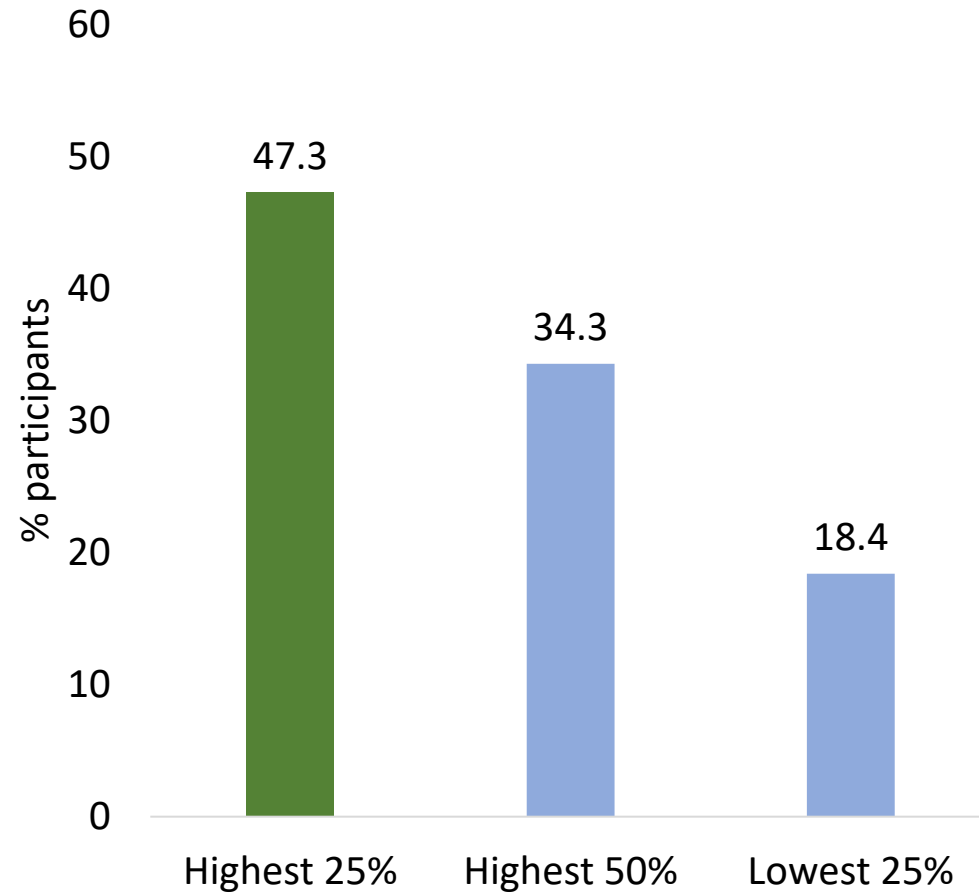
Top 3 most greenhouse gases
(Ireland)



Source: Environmental Protection Agency (2021). Latest emissions data.



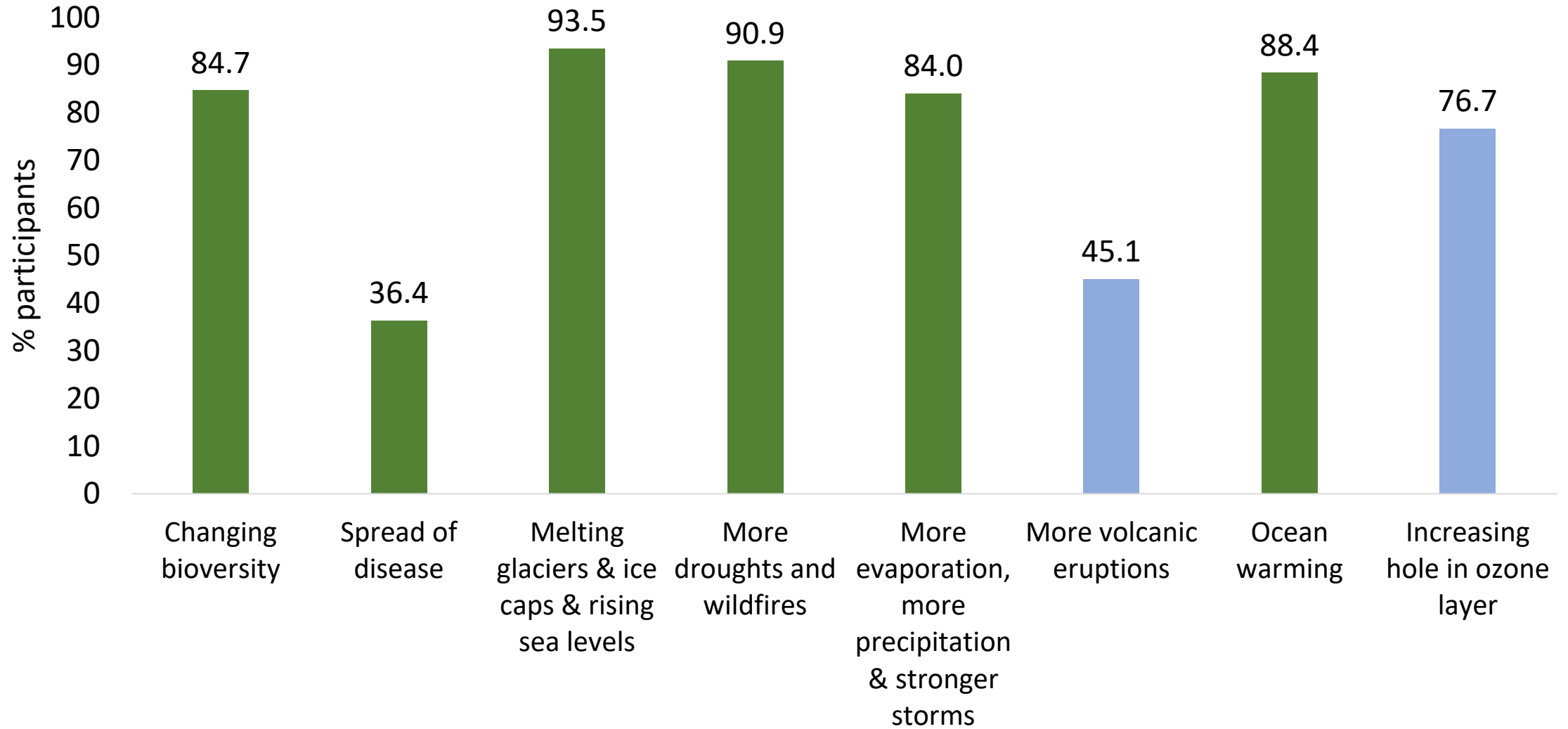
Emissions per person vs. EU?



Source: EuroStat (2021). Greenhouse gas emissions per capita.

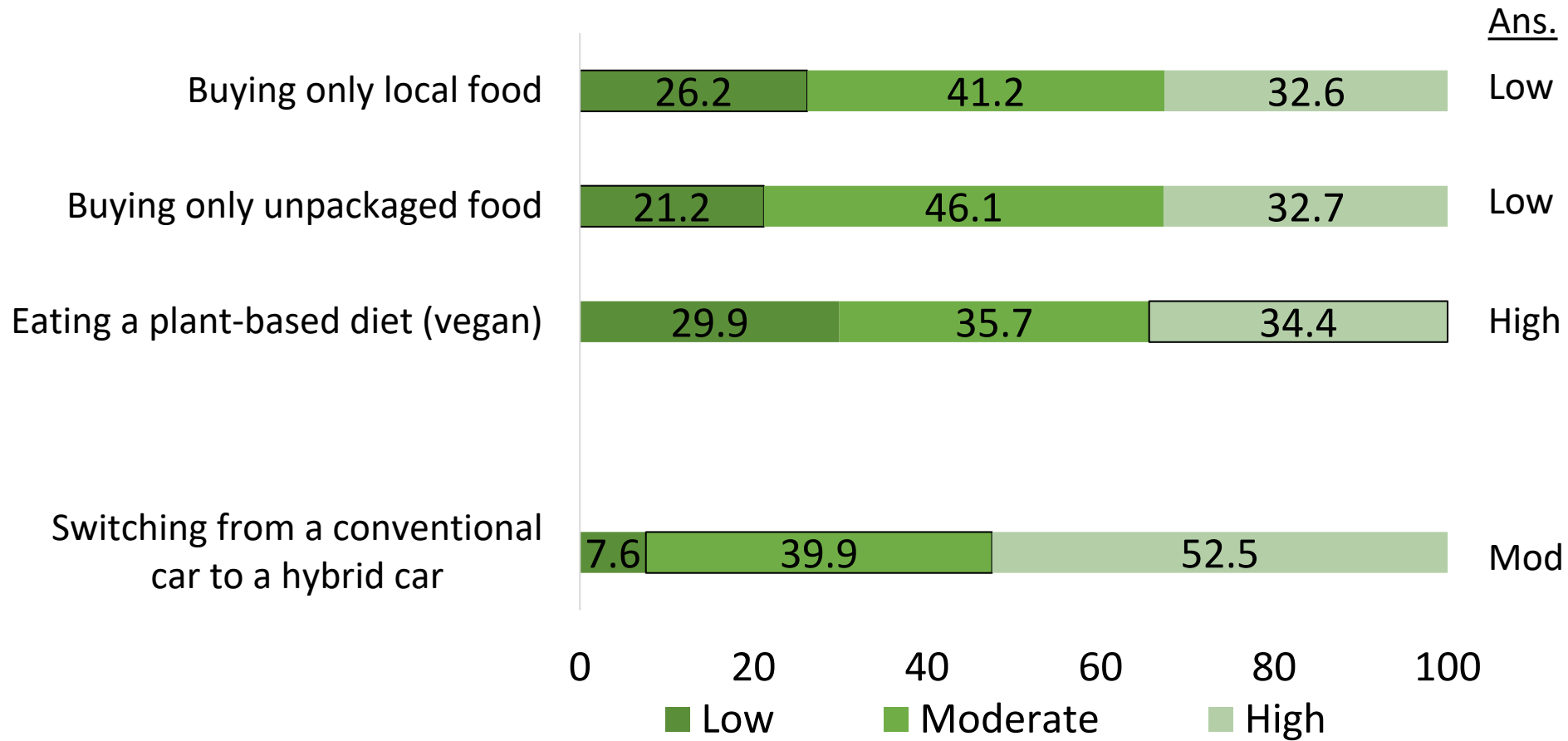


Effects of climate change





Relative impact of individual actions



Source: Wynes et al. (2020). *Climatic Change*.



Aims



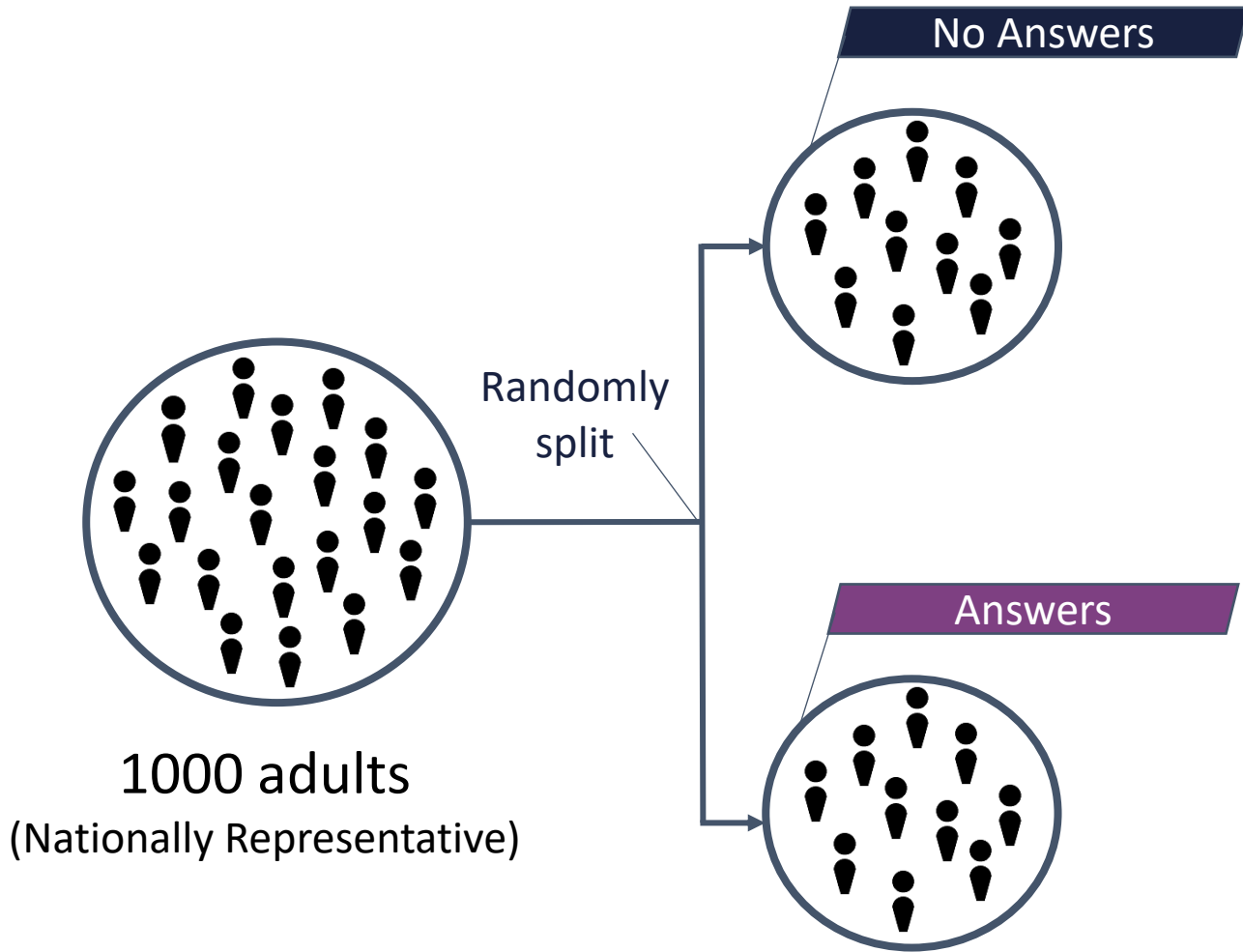
(1) Provide the first measure of understanding of climate change among a representative sample of adults in Ireland



(2) Test the link between comprehension and willingness to change



Study Design





ESRI Study Design

1

10-minute Climate Quiz

- Day-to-day causes, effects
- Ways to reduce impact
- Relative contribution of economy sectors
- Ireland vs. other countries
- Pace of change

Answers for the last section:

- The Earth's atmosphere is warming because **human activity releases gases** (e.g. fossil fuel burning). These gases **trap the sun's heat** in the Earth's atmosphere, preventing it from being released into space, **similar to how a blanket traps heat and warms your body**.
- **Carbon Dioxide (CO₂)** and **Methane (CH₄)** are gases that trap heat in the Earth's atmosphere (called "**greenhouse gases**").
- Fossil fuels release carbon when they are burned, which combines with oxygen in the air to make CO₂. This means that **coal-, gas- and oil-powered heating all emit CO₂**, and so do **diesel, petrol and hybrid vehicles as well as planes**.

Support for Mitigation

- Carbon tax

Please read the below text carefully.

A 'carbon tax' increases costs for businesses that use fossil fuels for energy and manufacturing. It also increases costs for households that use fossil fuels for home heating and petrol or diesel to fuel their car.

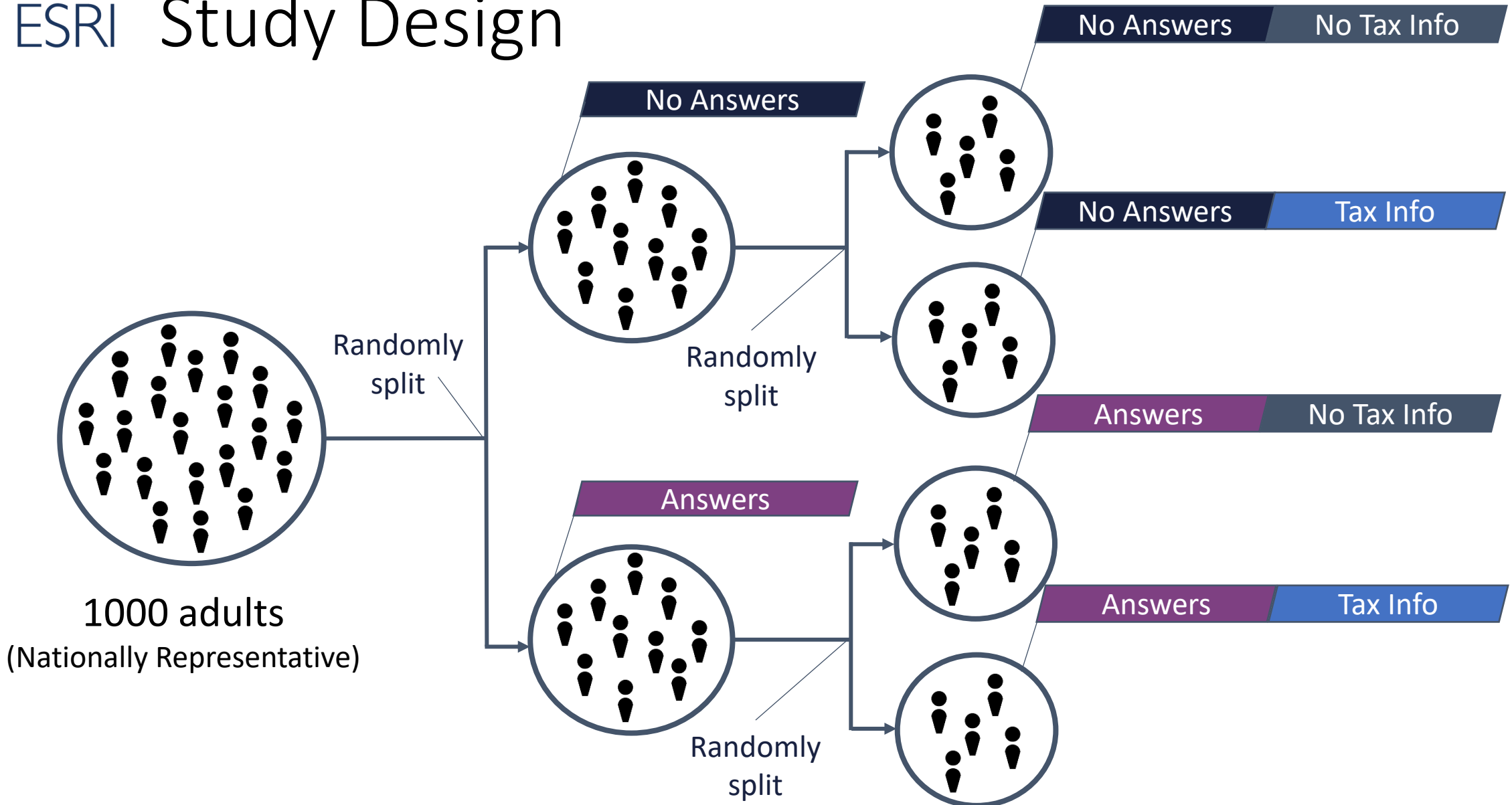
The aim of carbon taxes is that increased costs will encourage businesses and households to rely less on fossil fuels and shift towards more sustainable energy sources.

Ireland's carbon tax is currently set to €41 per tonne of CO₂. For households, this tax adds:

- €4.40 to a 40kg bag of coal or 96c to a bale of briquettes
- €30 to the average household's bi-monthly gas bill
- 10.7c to a litre of petrol or diesel



Study Design



1000 adults
(Nationally Representative)



ESRI Study Design

2

Support for Mitigation

- Carbon tax

Please read the below text carefully.

A 'carbon tax' increases costs for businesses that use fossil fuels for energy and manufacturing. It also increases costs for households that use fossil fuels for home heating.

The aim of the carbon tax is to encourage businesses and households to use fossil fuel energy more efficiently and to switch to other energy sources.

Ireland's current carbon tax is €41 per tonne of CO₂. For example:

- €4.40 for heating a brick house
- €30 for a tonne of coal
- 10.7c per litre of petrol

Please read the below text carefully.

The following information describes how the money (i.e. revenue) from the carbon tax is used in Ireland.

Investment in Residential and Community Energy Efficiency

Revenue from the carbon tax will be used to help pay for heating and energy efficiency measures that households want to make.

Targeted Support

Revenue from the carbon tax will be used to help pay for welfare payments and those who are most in need will make up for the extra costs of household energy. People who are better off will not be eligible for this support.

Pilot Environment

Revenue from the carbon tax will be used to help farmers and businesses to help with bio-diversification and other environmental measures.

Other green measures

For example, Greenways and other green infrastructure.

To what extent do you think a carbon tax can encourage businesses and households to shift towards more sustainable energy sources?

Not at all

1	2	3	4	5	6	7
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A great deal

Ireland's carbon tax is currently €41 per tonne of carbon. Given what you know about the carbon tax, what would you set the price per tonne of carbon to be?

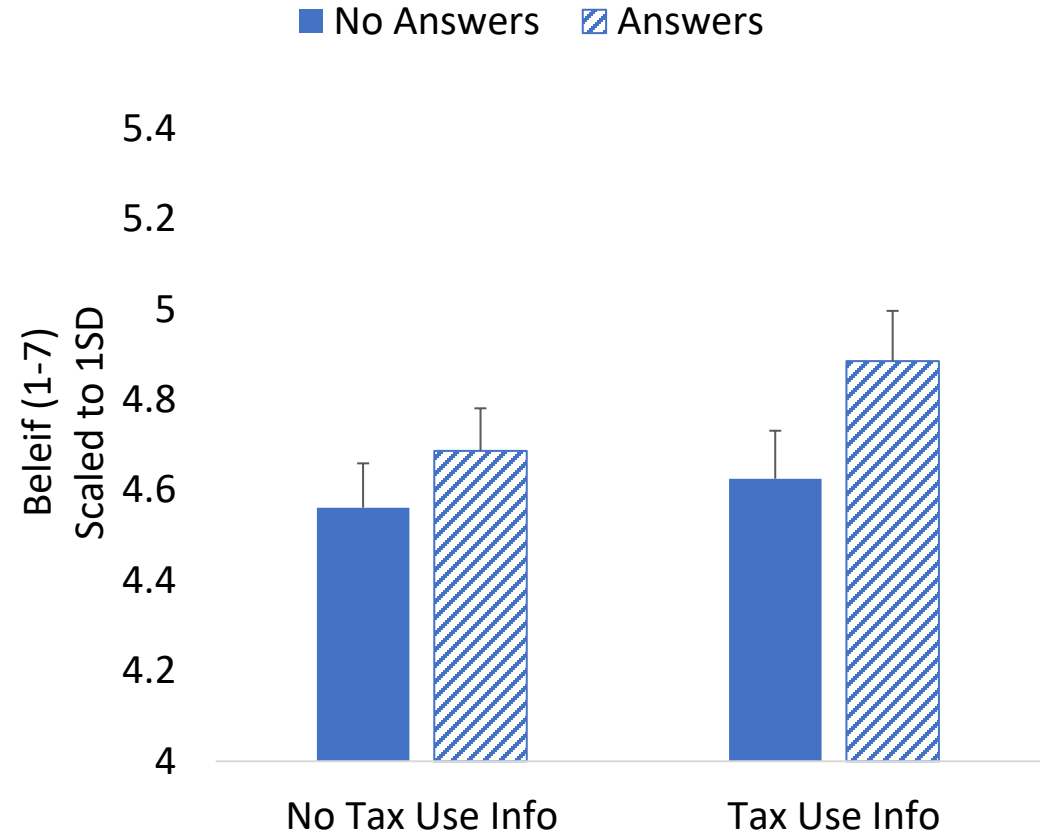
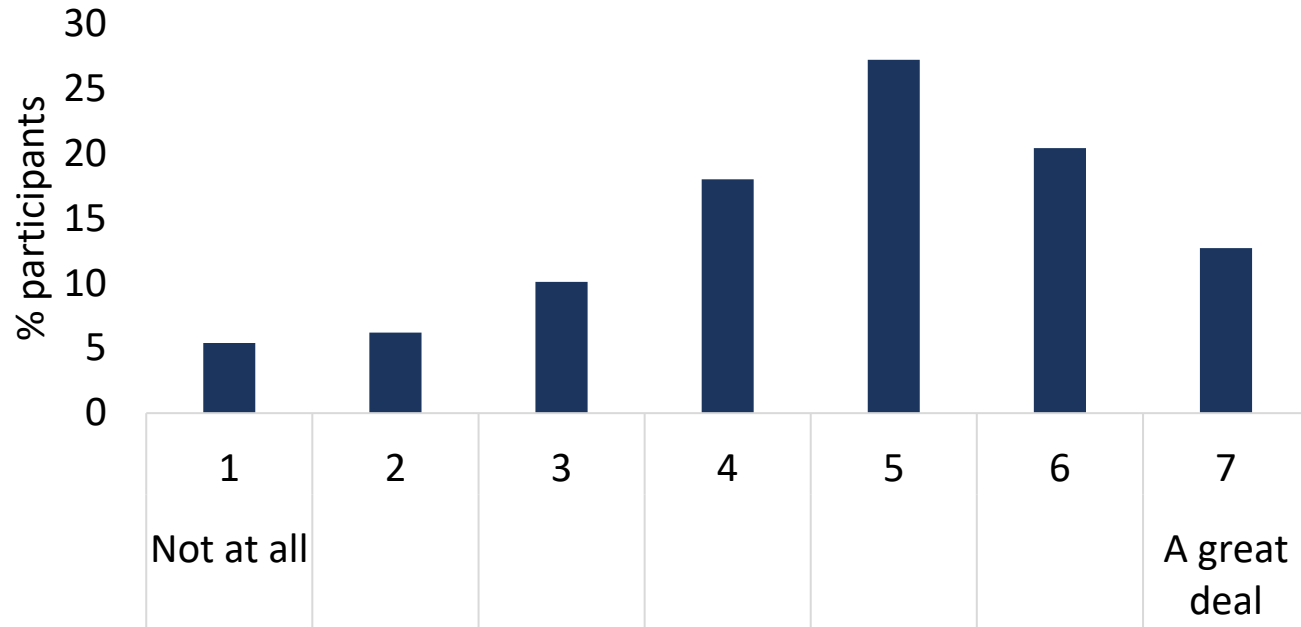
€0 €80

Next



Does engaging with climate science increase support for carbon taxation?

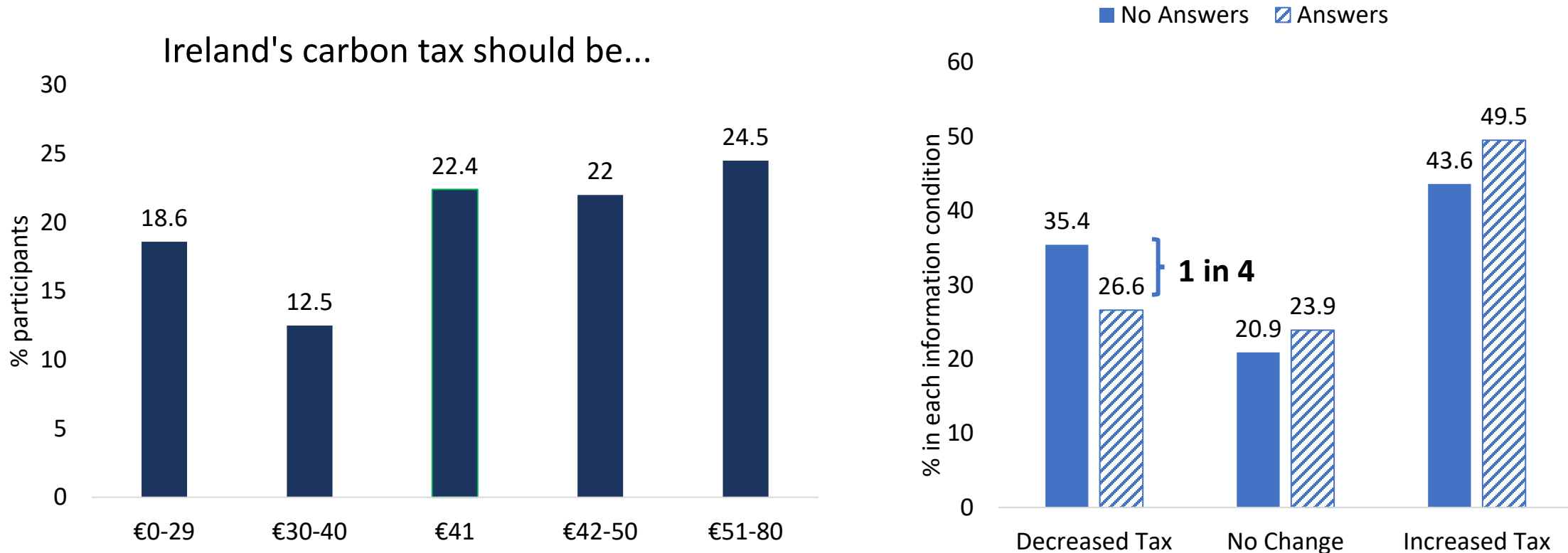
A carbon tax can encourage businesses and households to shift toward sustainable energy sources...



→ Greater belief carbon tax can change behaviour after engaging with quiz answers.
→ No effect of seeing how revenue is used.



Does engaging with climate science increase support for carbon taxation?



- Less likely to propose lower carbon tax after engaging with quiz answers.
- No effect of seeing how revenue is used.



ESRI Study Design

2

Support for Mitigation

- Carbon tax
- Willingness to change own behaviour

Which of the following applies to you?

- I drive a conventional (i.e. petrol/diesel) car/van/motorcycle
- I drive a hybrid car/van/motorcycle
- I drive an electric car/van/motorcycle
- I don't drive

How likely are you to do the following in the near future, in order to reduce your own impact on the environment?

Switch to a hybrid or electric car/van/motorcycle next time I buy a car/van/motorcycle

Not
at all
likely

1

2

3

4

5

6

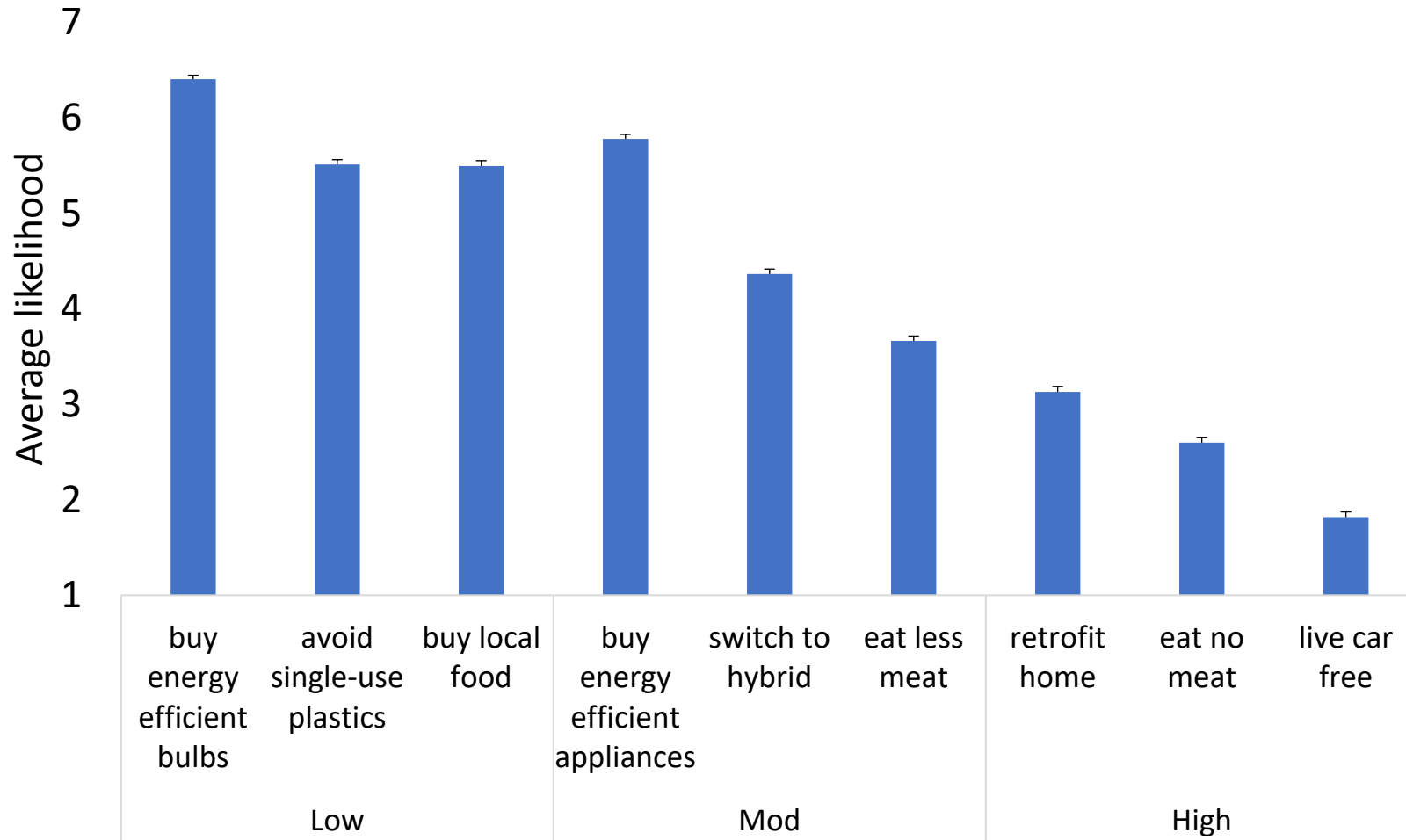
7

Extremely
likely

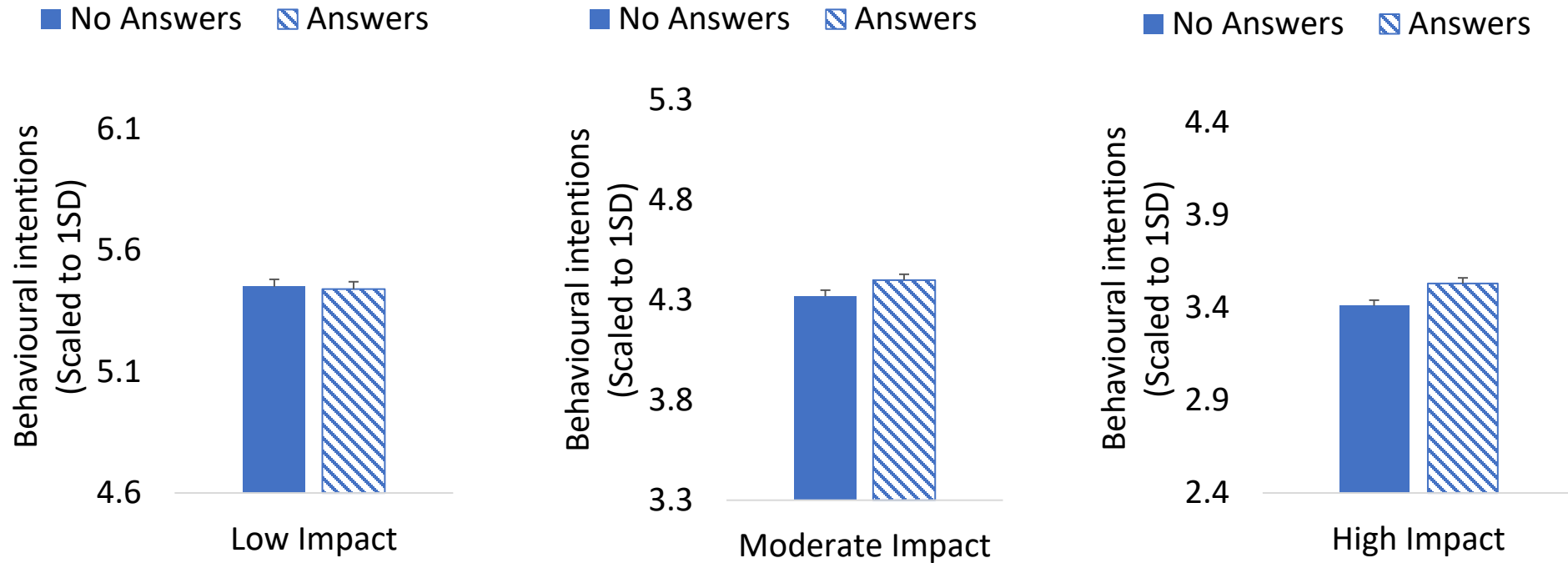
Next



Future Intentions



Future Intentions



→ More willing to do moderate and high impact actions after engaging with quiz answers.
 → But effect far smaller than effect on policy support.

Summary

- Basics of climate change reasonably well understood
- Relative contributions less so:
 - Role of agriculture underappreciated
 - Understanding actions poorer
- **Engaging with climate science increases support for climate policies**
- Statistical but far smaller effect on behavioural intentions



<https://doi.org/10.26504/rs135>