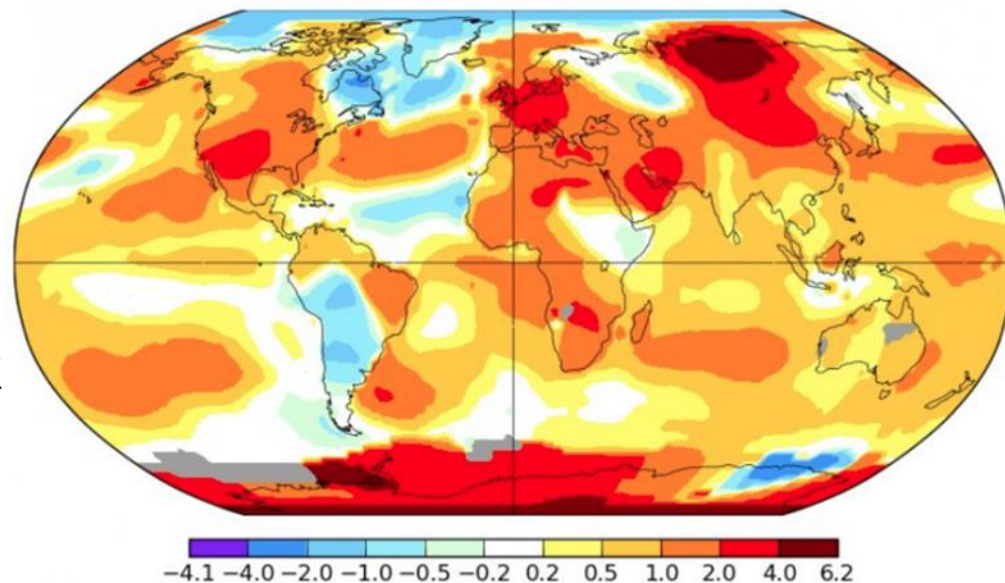


Public perceptions and engagement with climate change

Wouter Poortinga

 PoortingaW@Cardiff.ac.uk

 @wouterpoortinga

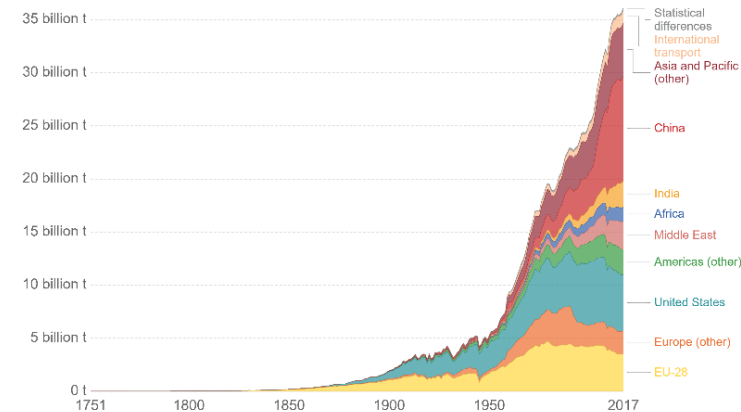


- 1. Why study public perceptions of climate change?**
- 2. How have perceptions of climate change changed?**
- 3. Why is it difficult to engage with climate change?**
- 4. How do people experience climate change?**
 - weather
 - experts
 - media
- 5. Who is concerned about climate change?**
- 6. How to communicate climate change?**

• Climate Change

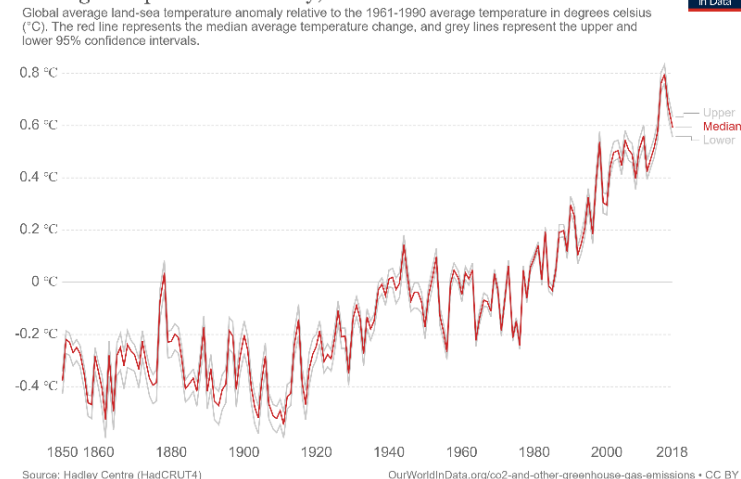
- biggest environmental threat the world is currently facing
- policy to avoid 'dangerous' climate change: 2°C temperature increase
- **UK Climate Change Act 2008: 25% reduction by 2020; 80% GHG reduction by 2050 (2019: 'net zero' amendment)**
- **EU: 20% below 1990 by 2020**
Roadmap: 40% by 2030, 60% by 2040, 80% by 2050
- **Paris agreement (2015): Reaffirm 2°C 'goal', while urging efforts for 1.5°C limit**

Annual total CO₂ emissions, by world region



Source: Carbon Dioxide Information Analysis Center (CDIAC); Global Carbon Project (GCP)
Note: The difference between the global estimate and the sum of national totals is labeled "Statistical differences".
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

Average temperature anomaly, Global



Source: Hadley Centre (HadCRUT4)
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

- **Ambitious targets require fundamental shifts in the way energy is used and produced**

→ both *energy supply* and *demand changes*


→ *new energy technologies to decarbonise supply*

→ *reduce household energy (half of all demand)*

→ *one side is not enough!*



Source: Wikimedia commons (Kim Hansen)

Energy Efficiency Rating		
	Current	Potential
Very energy efficient - lower running costs		
(92-100) A		
(81-91) B		
(69-80) C		70
(55-68) D		70
(39-54) E	52	
(21-38) F		
(1-20) G		
Not energy efficient - higher running costs		
UK 2005	Directive 2002/91/EC 	

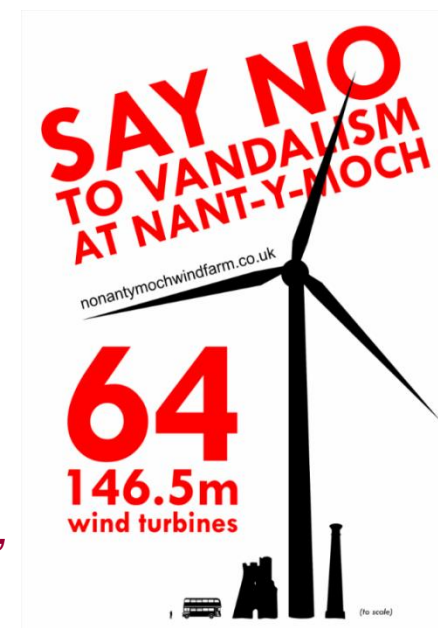
Source: Wikimedia commons (Gralo)

- **Public perceptions and attitudes critical to achieve sustainability targets** (*Spence et al 2009*)
 - Supply side: community opposition can lead to delays and cancellations in planning and construction
 - Demand side: willingness to take action against climate change in terms of behavioural change and compliance with wider policies

“policymakers may be reluctant to take meaningful action, if their electorate do not think that climate change is happening, anthropogenic, or a serious threat.” (cf. Rebecca Willis, 2018)



Source: Wikimedia commons (Jakob Huber)



Source: Nonantymochwindfarm.co.uk

How have perceptions of climate change changed over the last 30 years?

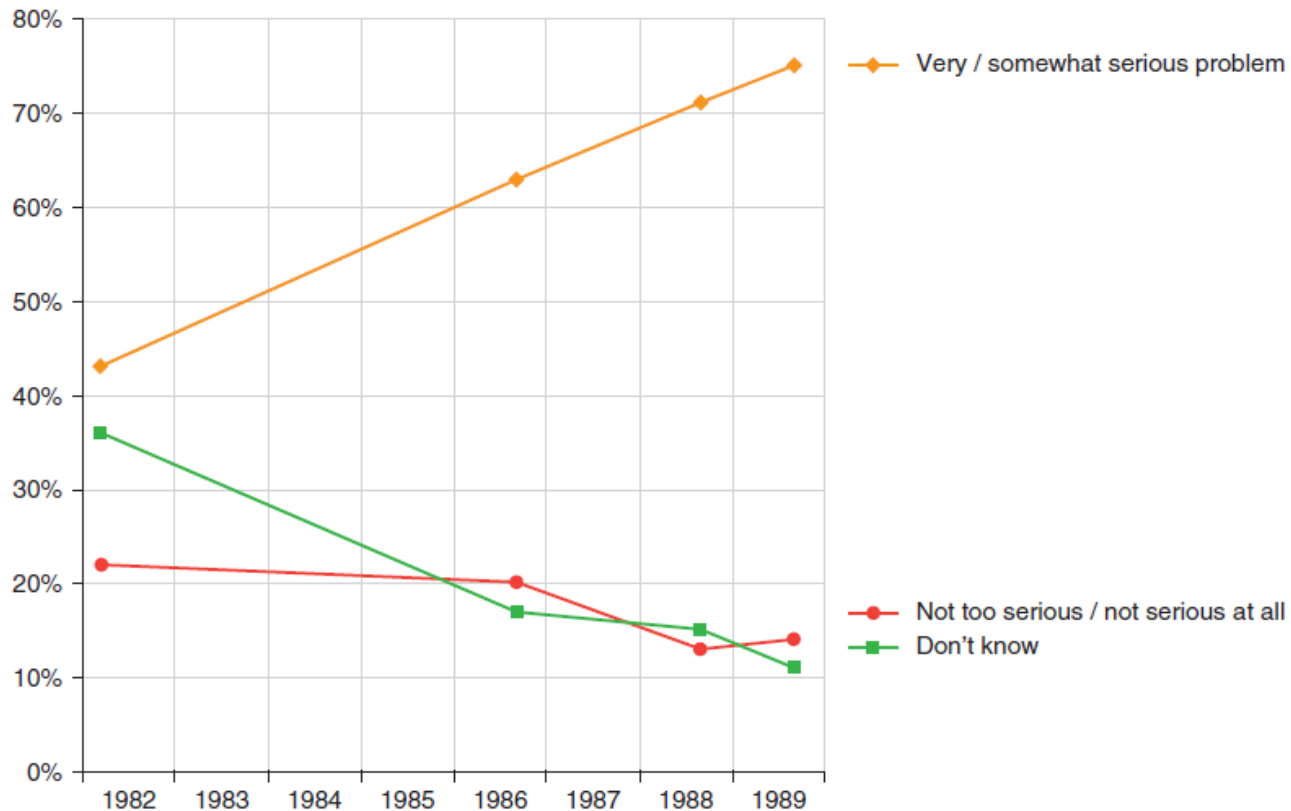
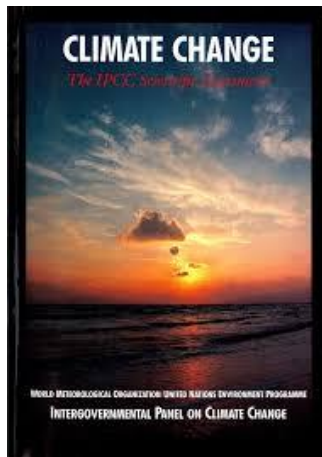


FIGURE 2 | Early trends in public perceptions in the United States. Data points show how 'serious' U.S. public survey respondents considered climate change to be during the 1980s. Data obtained from Ref. 58 ($n \geq 1000$ at each time-point).

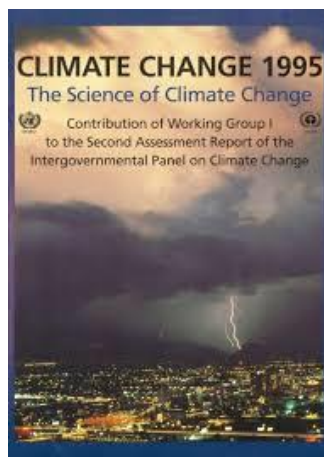
“As far as you know, do you personally think the world’s climate is changing, or not?”

	2005 (1,491)	2010 (1,822)
Yes	91	78
No	4	15
Don't know	5	6

Poortinga et al 2011



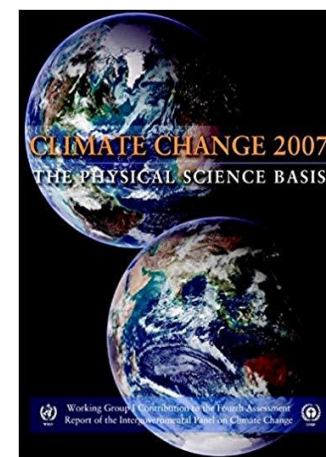
1990



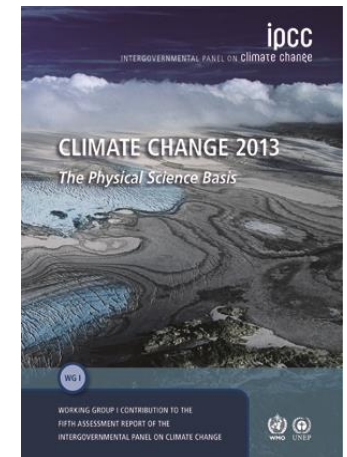
1995



2001



2007



2013

Intergovernmental Panel on Climate Change

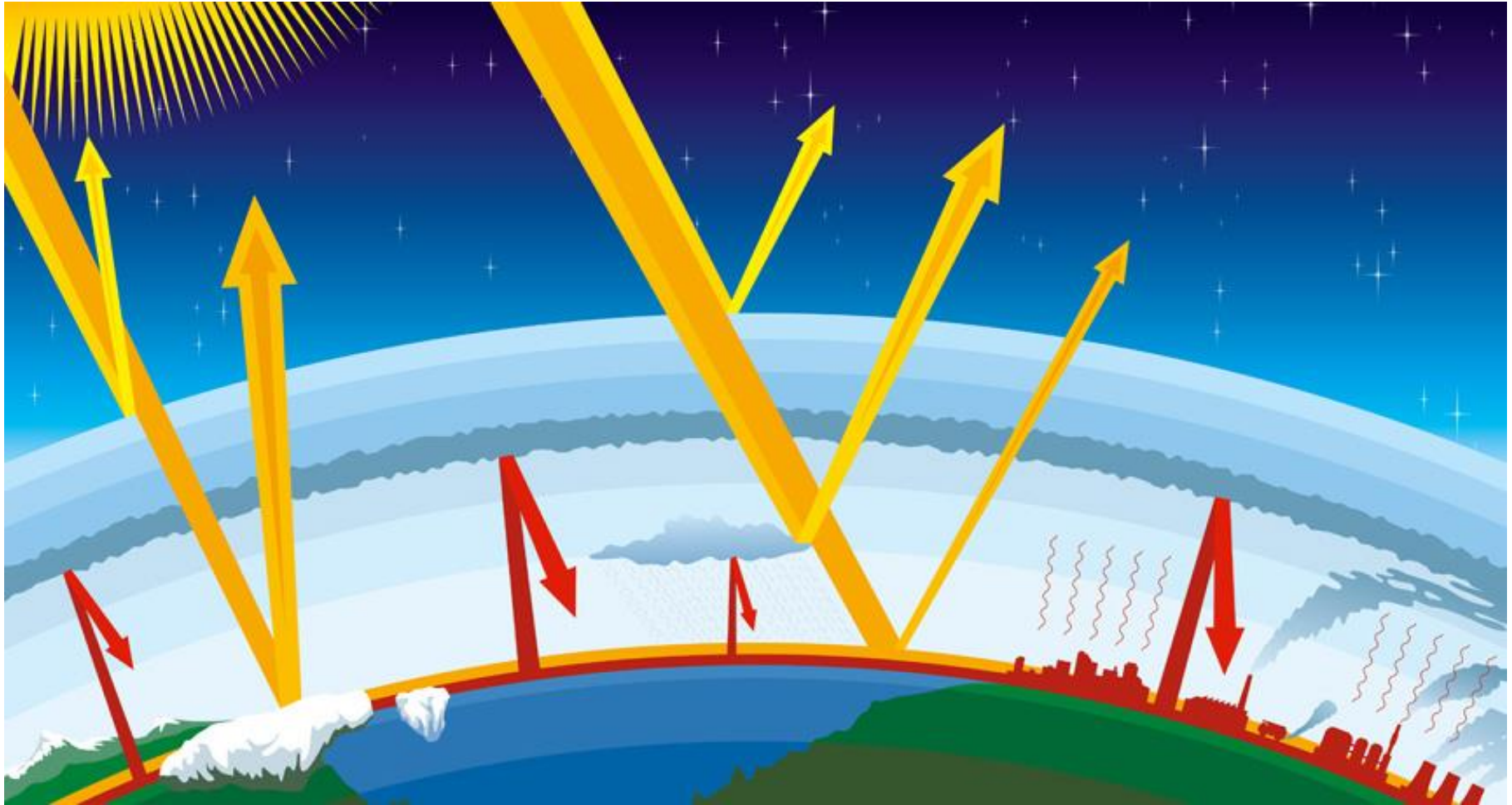
IPCC IV (2007):

“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising sea levels.”

Given that we know that **climate change is real** and is happening **now**, why do so many people (still) find it difficult to engage with the topic?



Psychological distance



Source: DavidSzabo

*Will it affect
people like me?*

Social Distance

*Does it really
exist/have serious
impacts?*

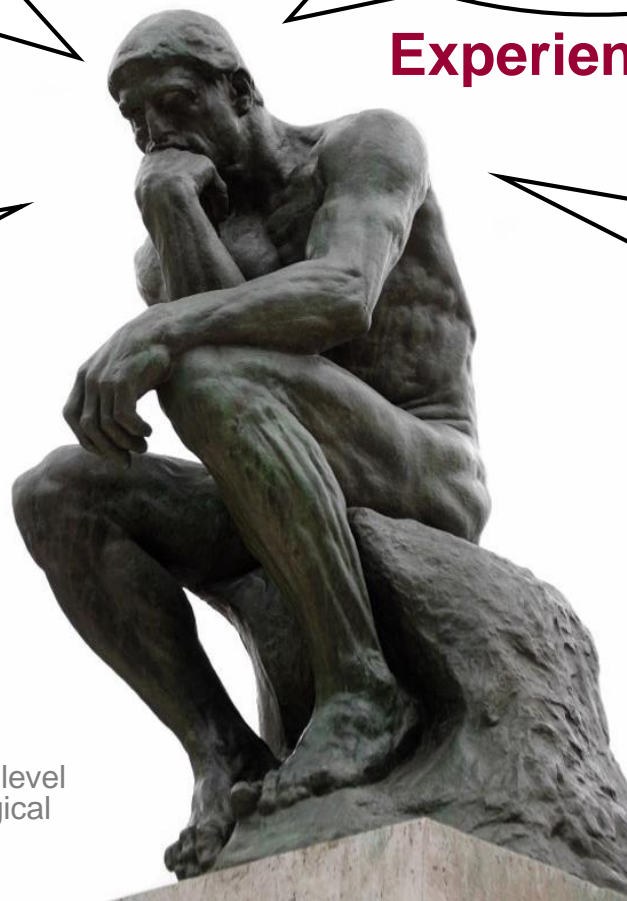
Experiential Distance

*Will it happen
here?*

Geographic Distance

*Will it happen in
my lifetime?*

Temporal Distance



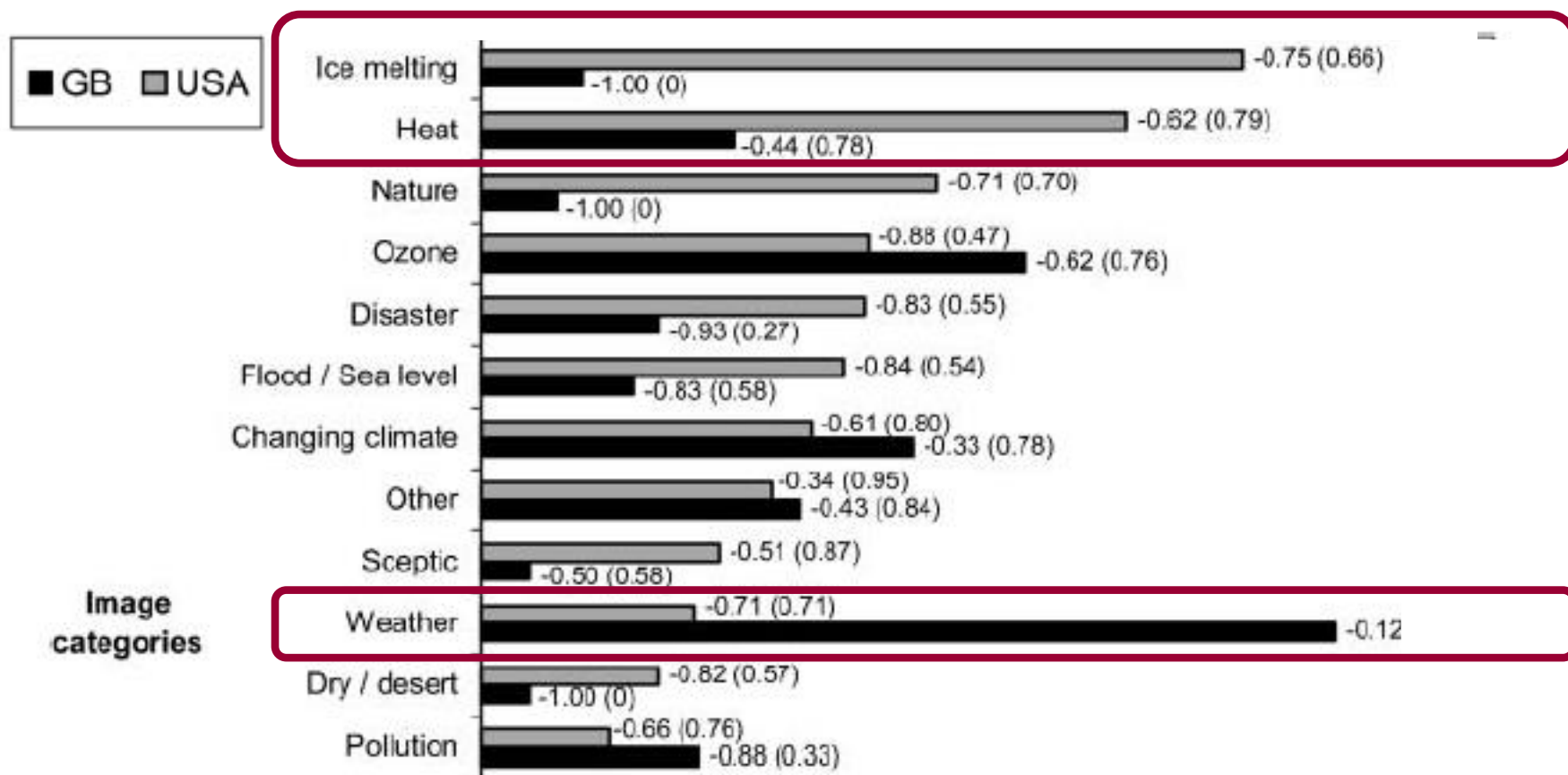
Climate Change:

“long-term shifts in the planet's weather patterns or average temperatures”

– 30 years

Weather and weather events

Global Warming” (US) *versus* “Climate Change” (UK)





Source: YouTube screen capture

2014-2015



A screenshot of a tweet from Donald J. Trump (@realDonaldTrump) dated 4:23 PM on November 21, 2018. The tweet text reads: "Brutal and Extended Cold Blast could shatter ALL RECORDS - Whatever happened to Global Warming?". The tweet has 27,319 retweets and 111,305 likes. Below the engagement metrics, there is a row of ten circular profile pictures of users who interacted with the tweet. At the bottom of the tweet interface, there are icons for replies (89K), retweets (27K), likes (111K), and a direct message icon.

 **Donald J. Trump** 
@realDonaldTrump [Follow](#) 

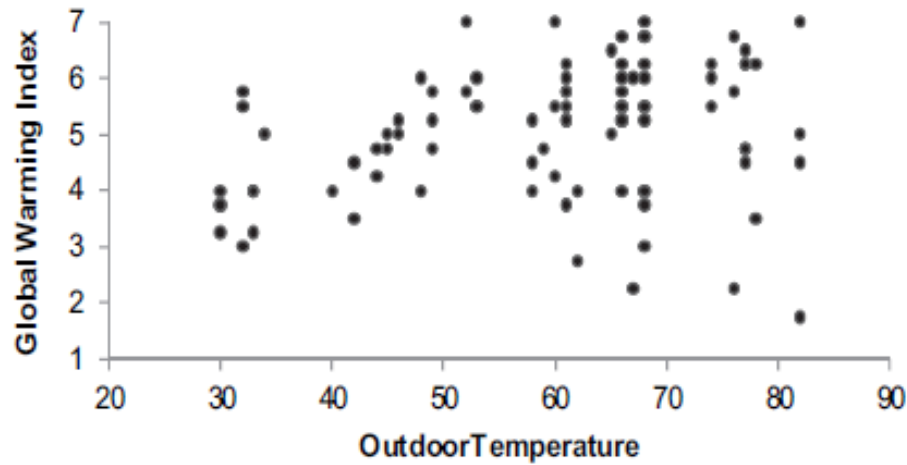
Brutal and Extended Cold Blast could shatter
ALL RECORDS - Whatever happened to
Global Warming?

4:23 PM - 21 Nov 2018

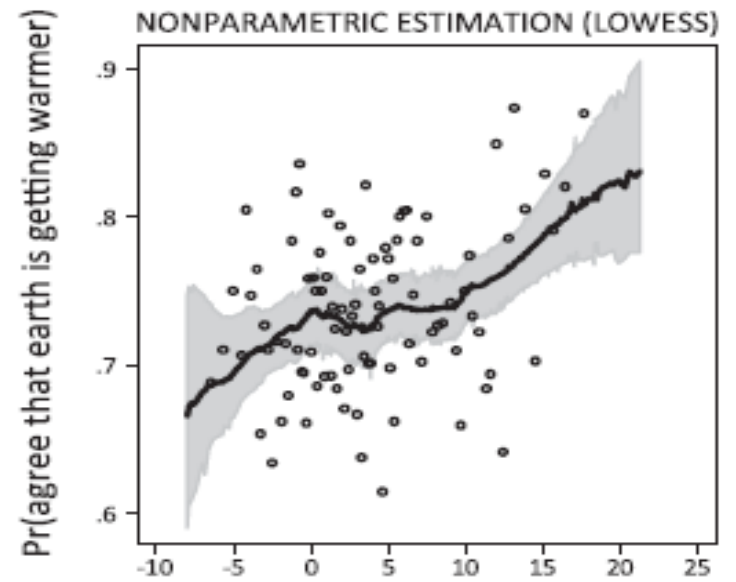
27,319 Retweets 111,305 Likes 

 89K  27K  111K 

Source: Twitter screen capture



Joireman et al 2010



Egan & Mullin 2012



Photo: G Friedrich



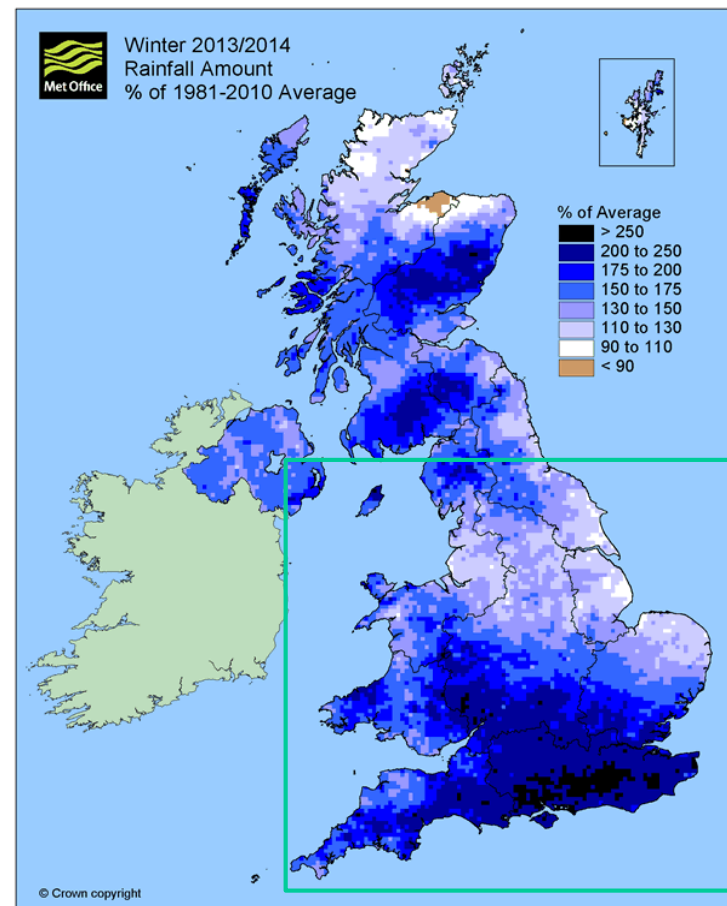
Photo: Philip Halling (CC)



Photo: FEMA (Walter Jennings)

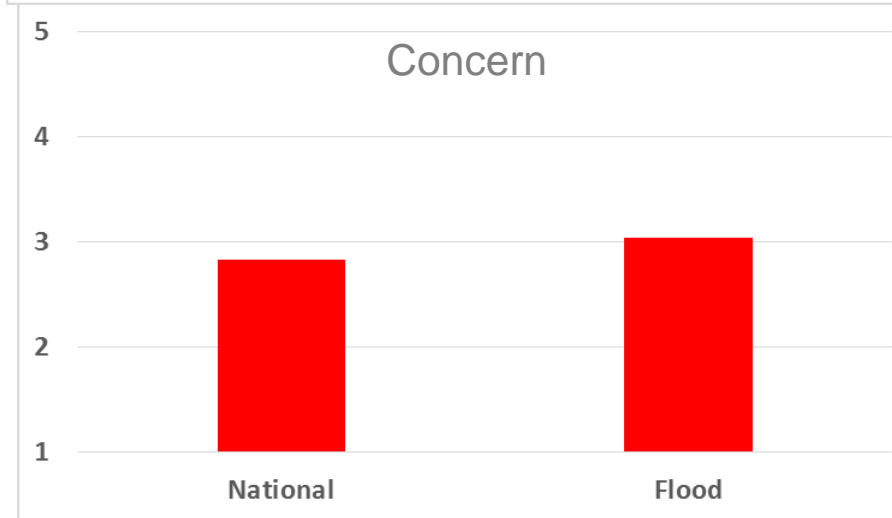
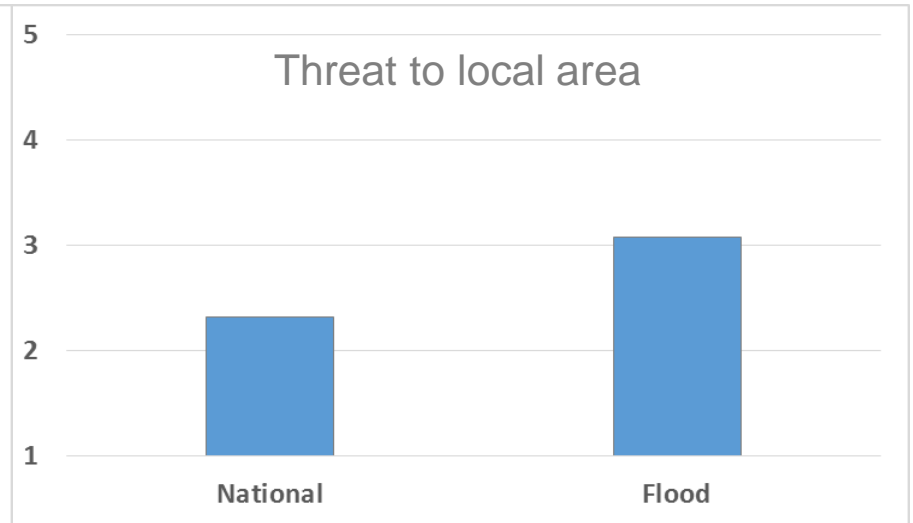
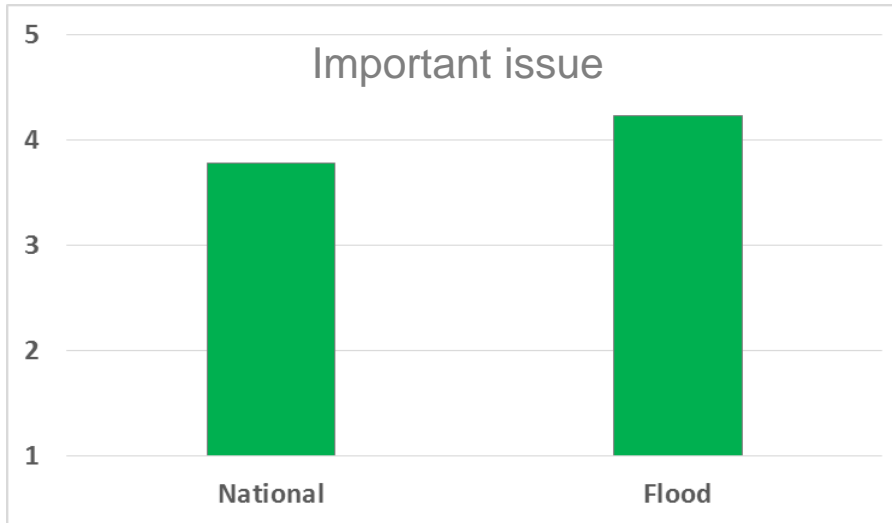


Dataset licensed under Open Government license



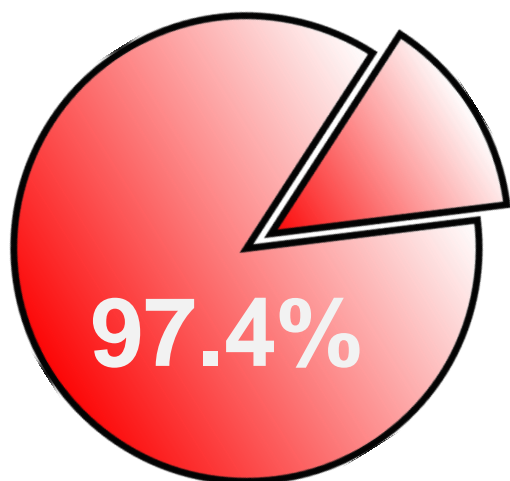
Source: MetOffice (Crown copyright)

2013/14 Winter Flooding in the UK

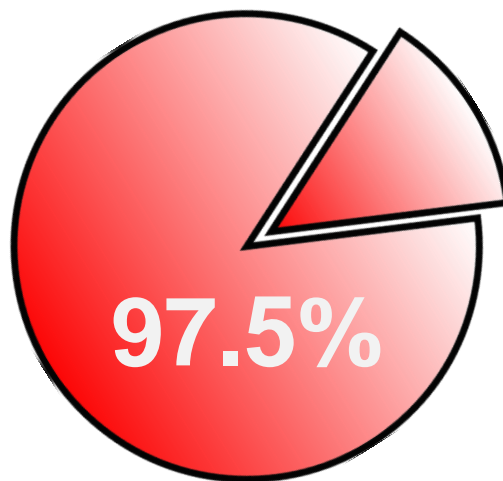


Scientific consensus

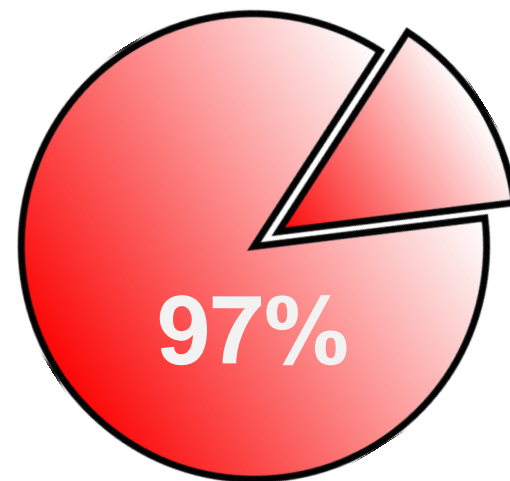
Percentage of climate scientists/academic papers supporting tenet that humans cause climate change



Doran & Zimmerman 2009

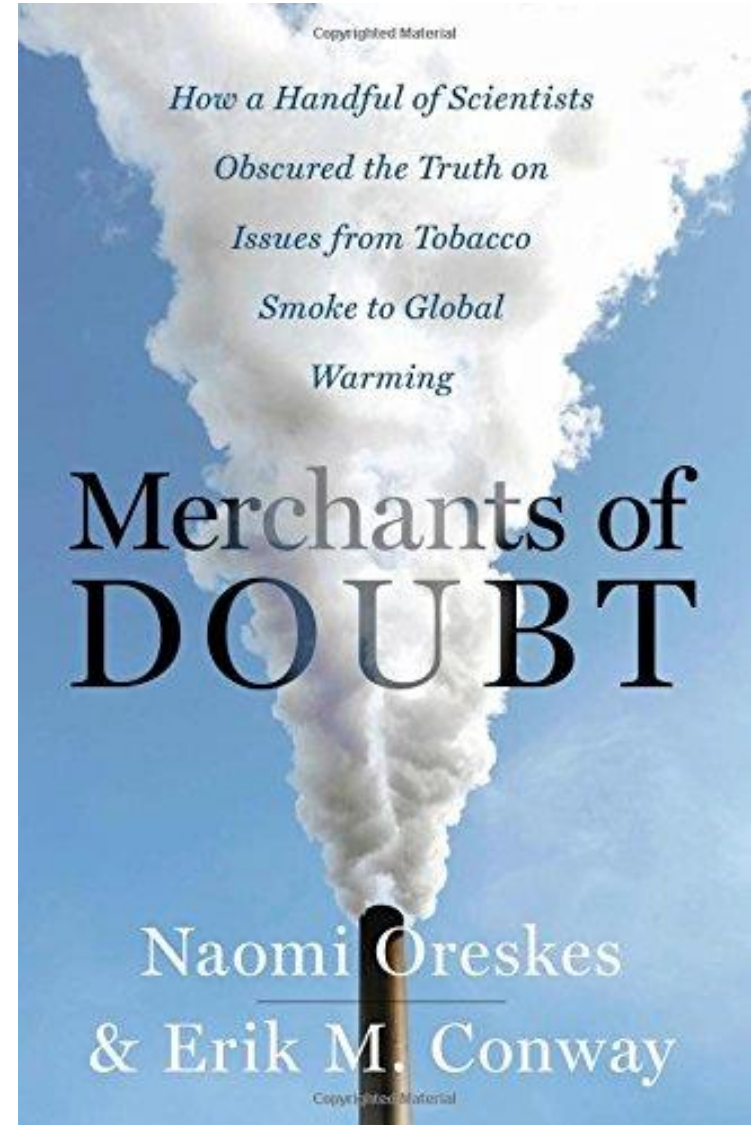


Anderegg et al 2010



Cook et al 2016

100%



- Belief in scientific consensus**

“To the best of your knowledge, what proportion of scientists agree that climate change is happening and that humans are largely causing it?”

	The vast majority of scientists agree (80% or more)	Most scientists agree (more than 50% but fewer than 80%)	As many scientist agree as disagree (50%)	Some scientists agree (more than 20% but fewer than 50%)	A small minority of scientists agree (20% or less)
France	33%	33%	18%	7%	3%
Germany	24%	30%	19%	8%	4%
Norway	35%	29%	18%	4%	3%
UK	30%	28%	20%	6%	5%

Steentjes et al 2017

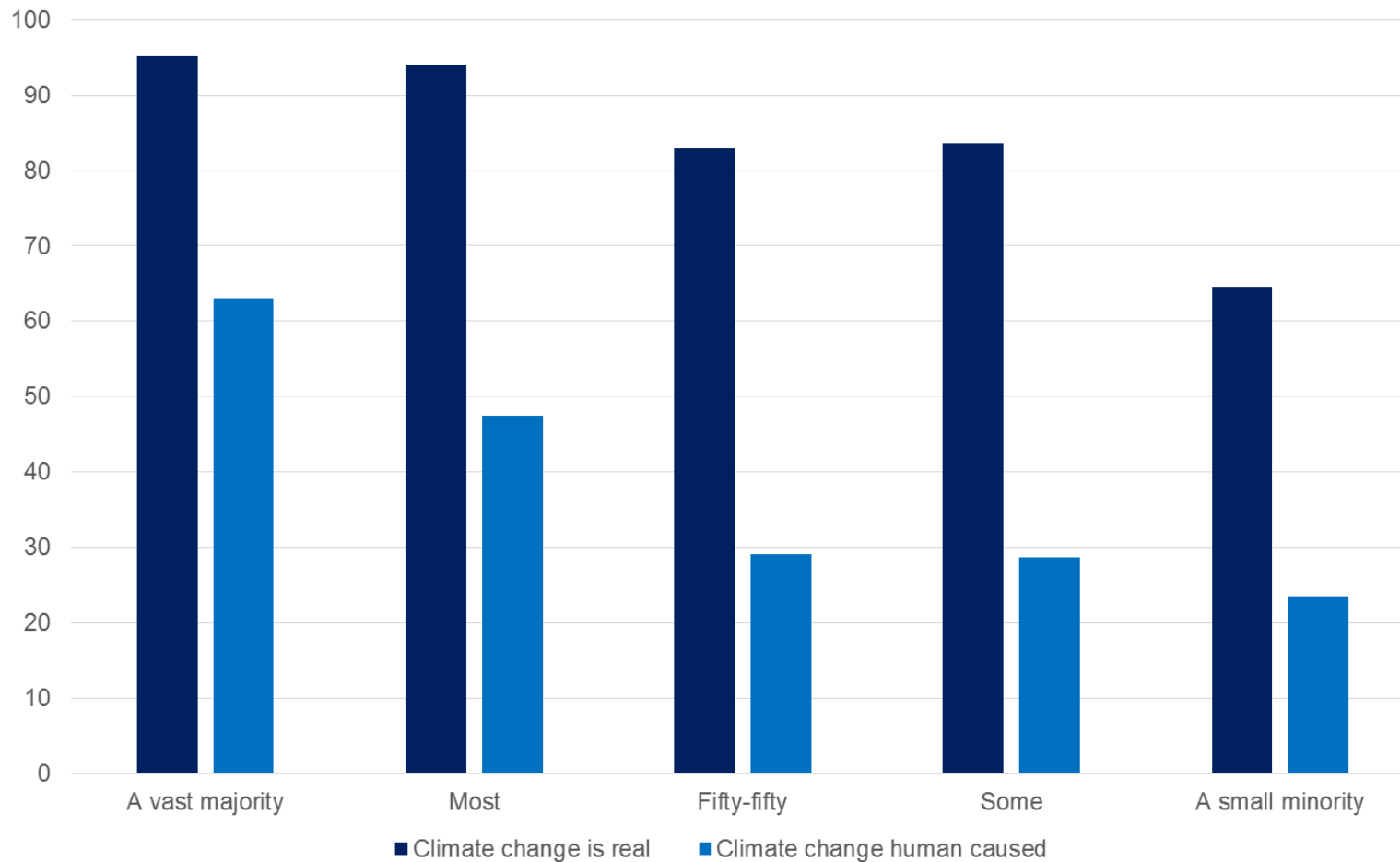
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Steentjes et al 2017

“To the best of your knowledge, what proportion of scientists agree that climate change is happening and that humans are largely causing it?”



Media reporting



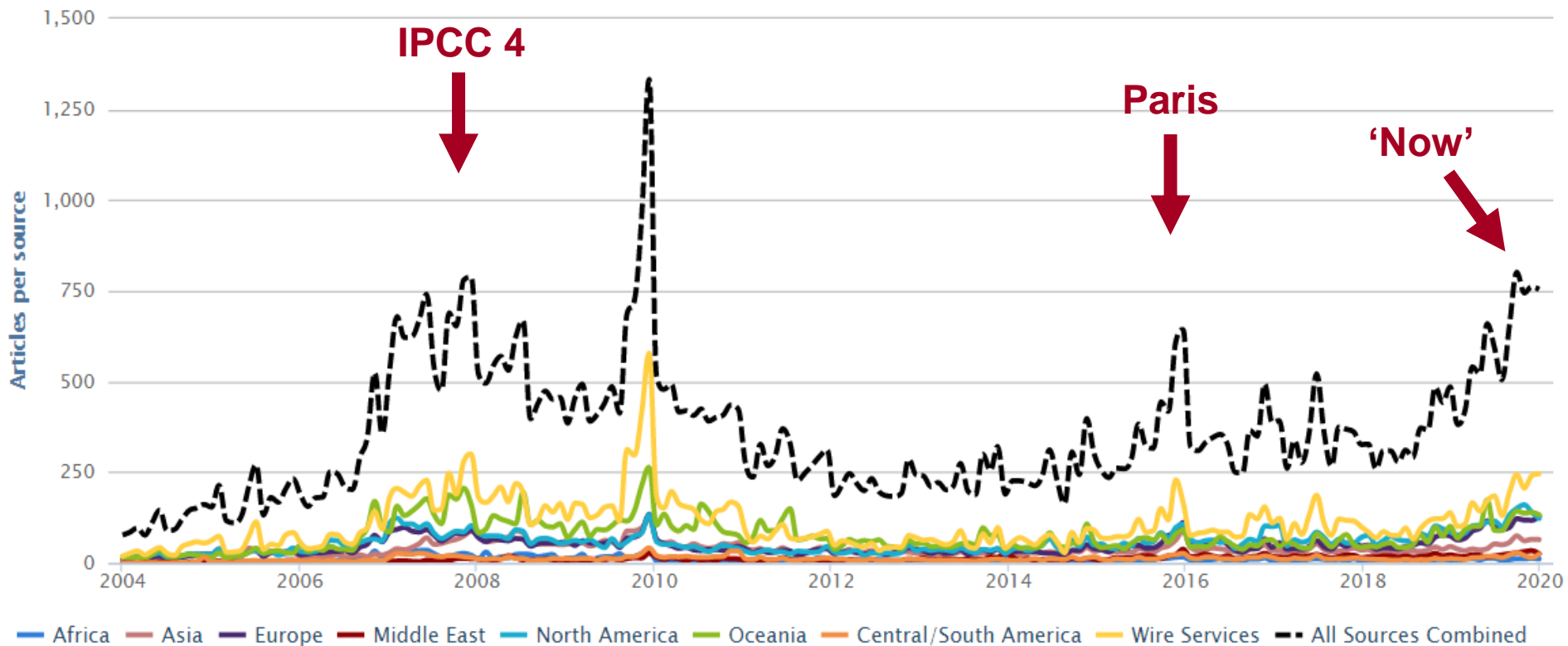
Photo: Jon S from Flickr (CC BY 2.0):

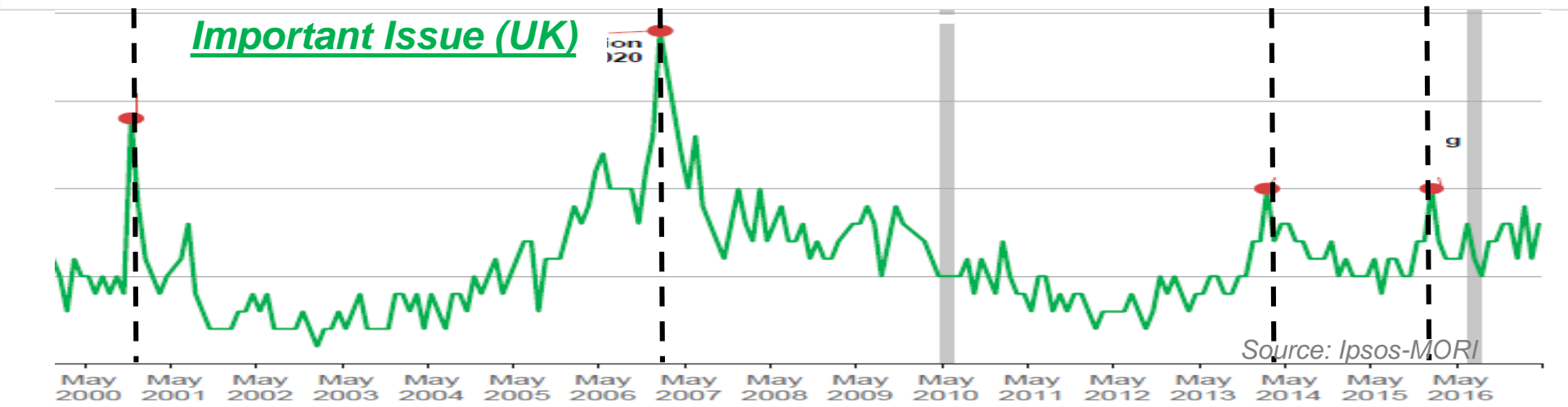
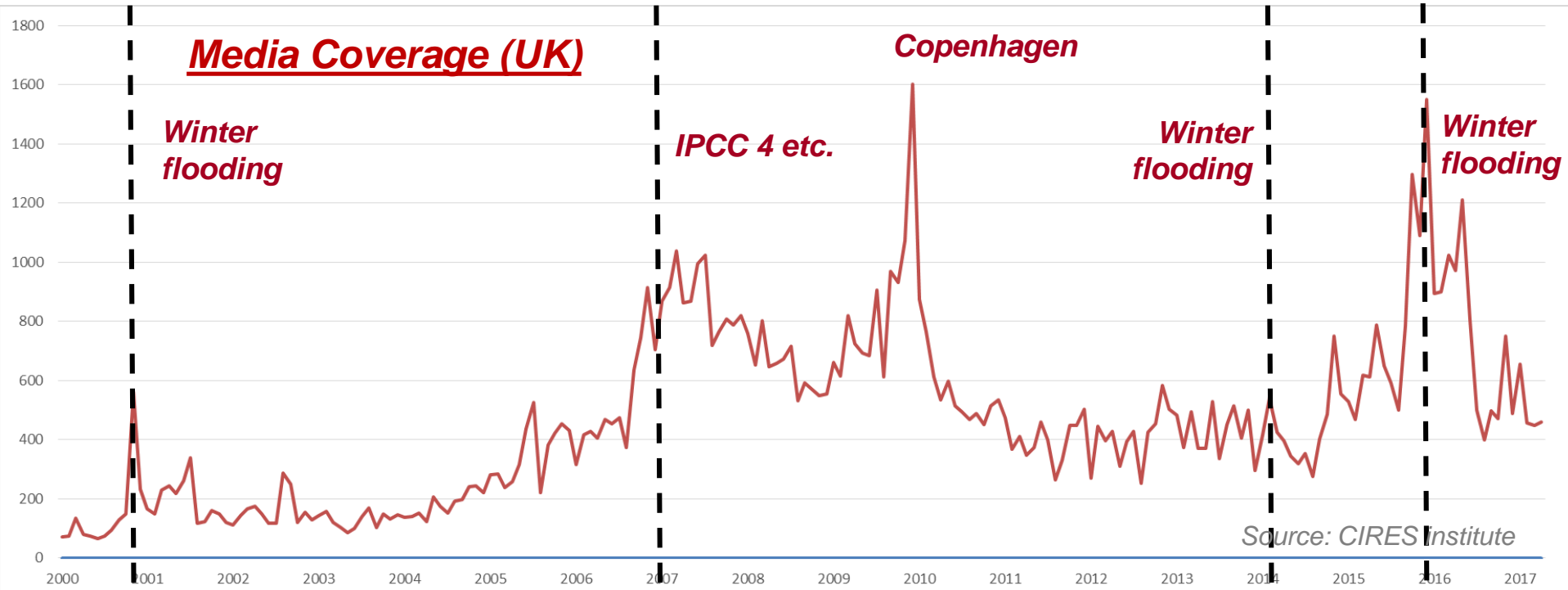
'Copenhagen' / 'Climategate'

IPCC 4

Paris

'Now'





Who is concerned about climate change?

Who is concerned?



Left



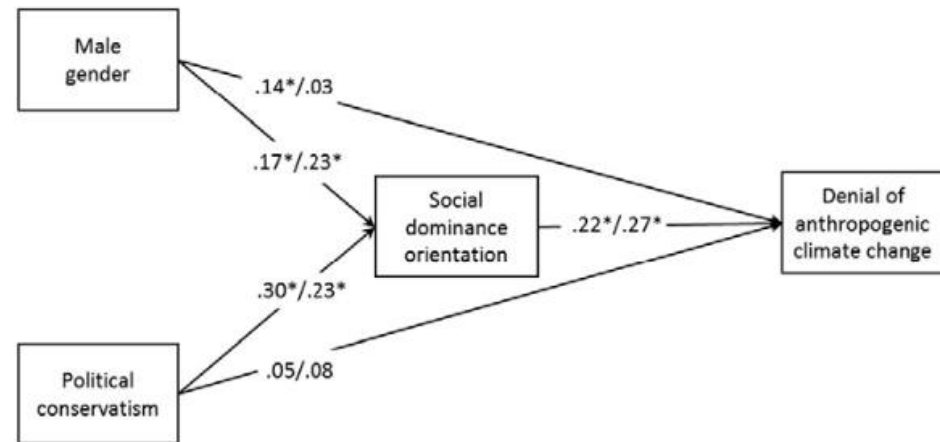
Young



Affluent

Climate scepticism

	Scepticism Scale	Climate Change does not exist
	B (SE) p	B (SE) p
Gender		
Male	0.00 (0.04) n.s.	0.22 (0.14) n.s.
Age		
25-34	-0.06 (0.07) n.s.	-0.18 (0.29) n.s.
35-44	0.00(0.06) n.s.	0.46 (0.25) n.s.
45-54	0.04 (0.06) n.s.	0.17 (0.26) n.s.
55-64	0.16 (0.07) *	0.66 (0.26) *
65 plus	0.22 (0.06) ***	0.65 (0.24) **
Social Grade		
C1	0.19 (0.05) ***	0.20 (0.20) n.s.
C2	0.21 (0.05) ***	0.52 (0.20) *
DE	0.21 (0.06) ***	0.47 (0.21) *
Voting Intention		
Conservative	0.22 (0.05) ***	0.80 (0.20) ***
Labour	-0.05 (0.05) n.s.	0.41 (0.21) n.s.
LibDems	-0.05 (0.07) n.s.	0.03 (0.30) n.s.
Other	0.02 (0.07) n.s.	0.51 (0.27) n.s.
Would not Vote	0.05 (0.06) n.s.	0.90 (0.22) ***





How to communicate climate change?

- 1. Fear versus hope messages**
- 2. The use of images**
- 3. Reducing psychological distance**
- 4. Communicating scientific consensus**
- 5. Engagement across the political spectrum
(how to talk to the centre right)**

We have 12 years to limit climate change catastrophe, warns UN

Urgent changes needed to cut risk of extreme heat, drought, floods and poverty, says IPCC

● [Overwhelmed by climate change? Here's what you can do](#)

Jonathan Watts *Global environment editor*

Mon 8 Oct 2018 07.23 BST



123,825 

🕒 This article is over 1 month old



▲ A firefighter battles a fire in California. The world is currently 1C warmer than preindustrial levels. Photograph: Ringo HW Chiu/AP

The world's leading climate scientists have warned there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people.



NEW YORK POST Page Six

MONDAY, SEPT. 21, 2009 / Sunny, 72° / Weather: P. 26 ★ ★ EARLY CITY SPECIAL www.nypost.com FREE

WORLD LEADERS SLIP ON UN SUMMIT SLOPE PAGE 6

WE'RE SCREWED



NEW YORK FIGHTS BACK!

Over a hundred world leaders will try to tackle climate change tomorrow at the U.N. But they seem more interested in tickling each other.

Bad news for the rest of us, you bet. But true to form, New Yorkers are fighting back in all kinds of ways — and we're setting an example for the rest of the country.

Continues on Page 3

What you're not being told: Official City report predicts massive climate catastrophes, public health disasters. SEE PAGE 3



“I don’t want your hope. I don’t want you to be hopeful. I want you to panic ... and act as if the house was on fire. ”

Greta Thunberg
Environmental Activist



Shows urgency



FEAR



Disengaging

False sense of security



HOPE

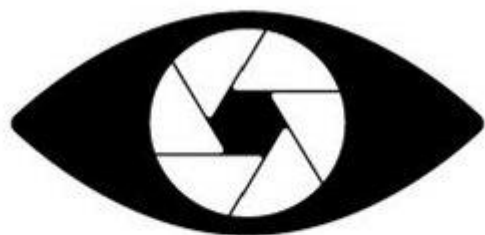


Motivating

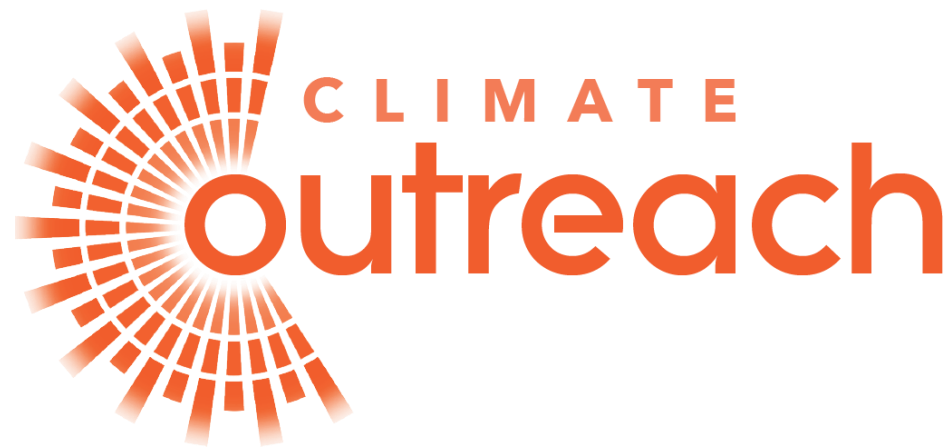
FEAR & HOPE

The use of images





climate
VISUALS





FEAR & HOPE



'Reducing' or 'Bridging' psychological distance

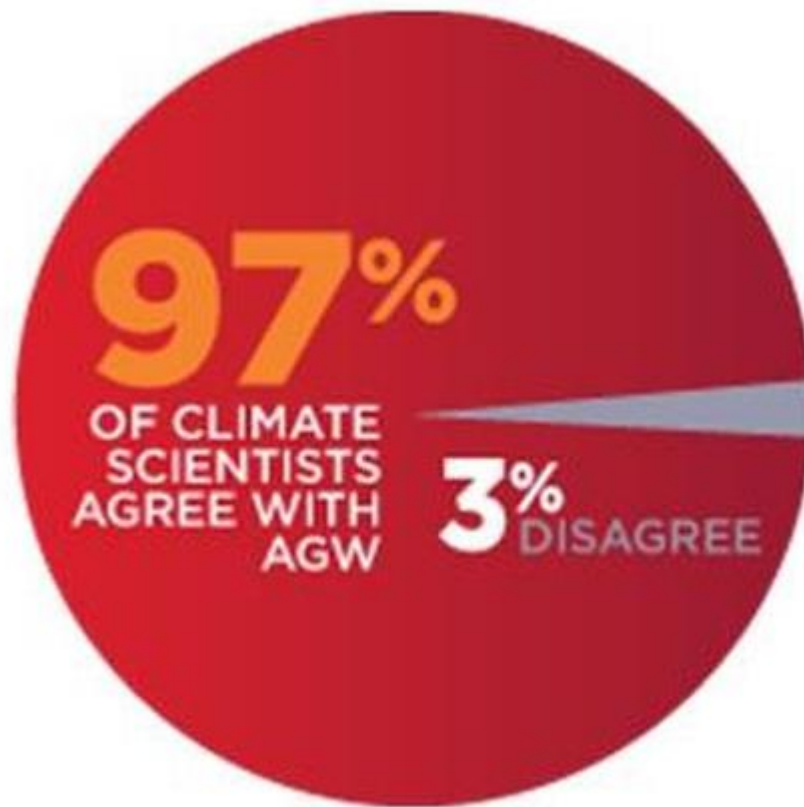


Local impacts

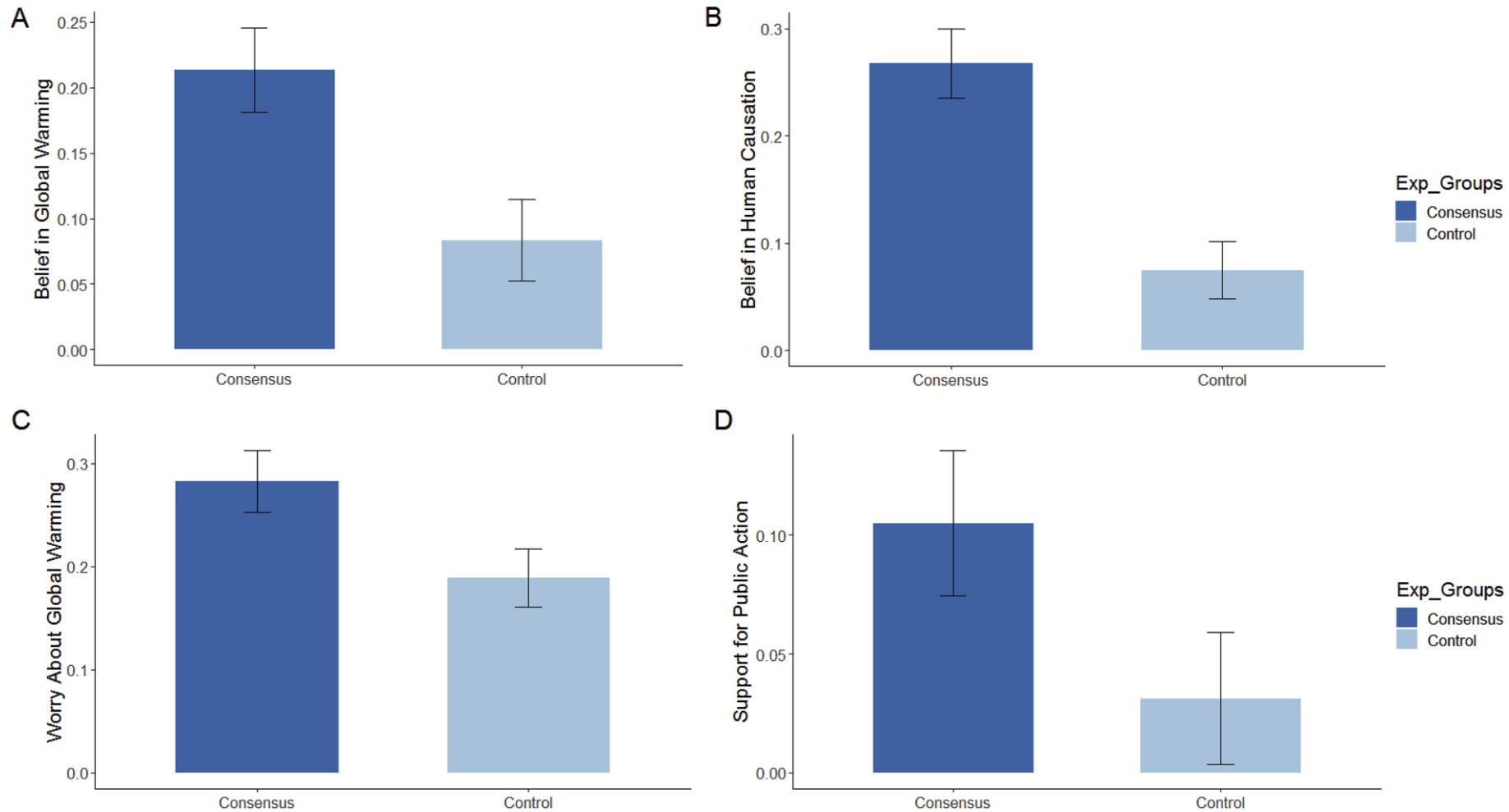


Global identity

Communicating scientific consensus



Communicating scientific consensus



How to talk about climate change to the political right?



Avoiding Waste



Social Justice



The Good Life

The Smart Money



Great British Energy

Avoiding Waste



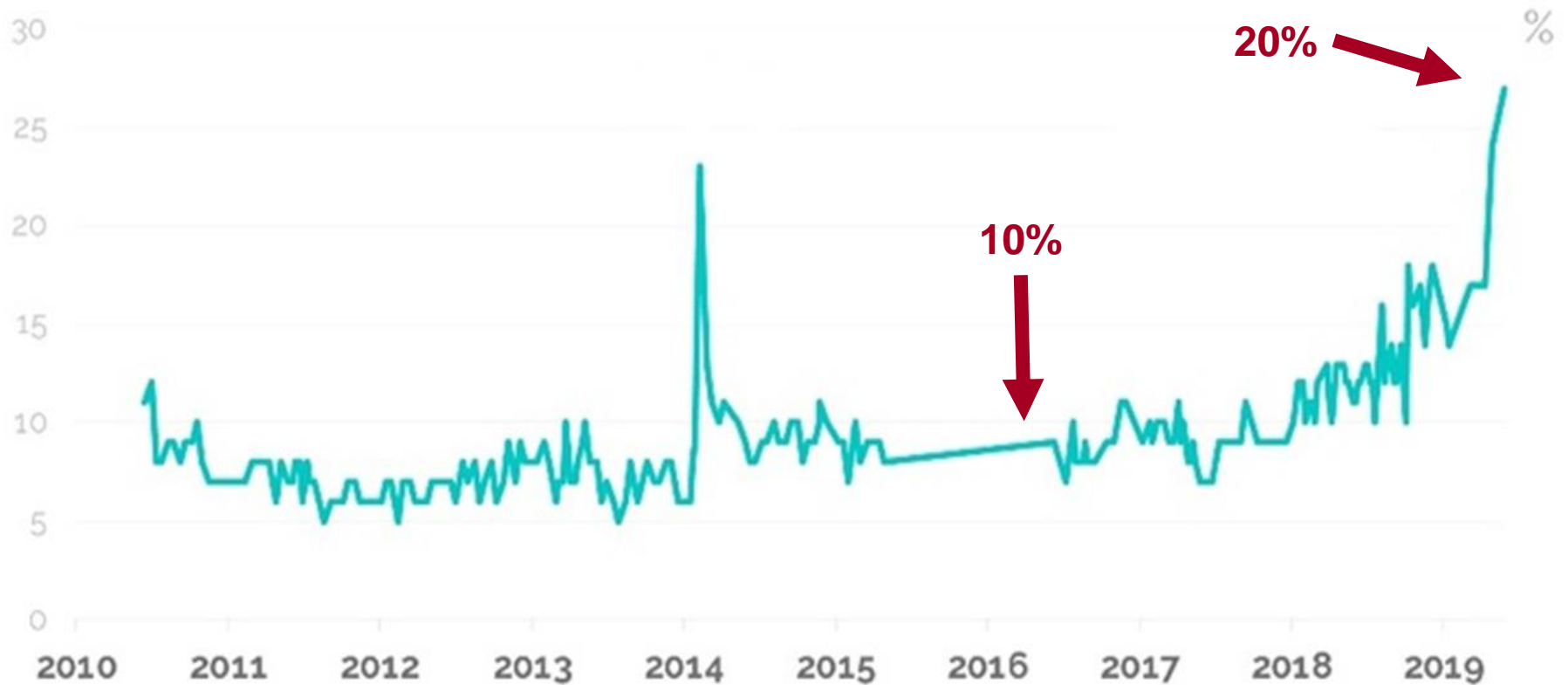
Great British Energy



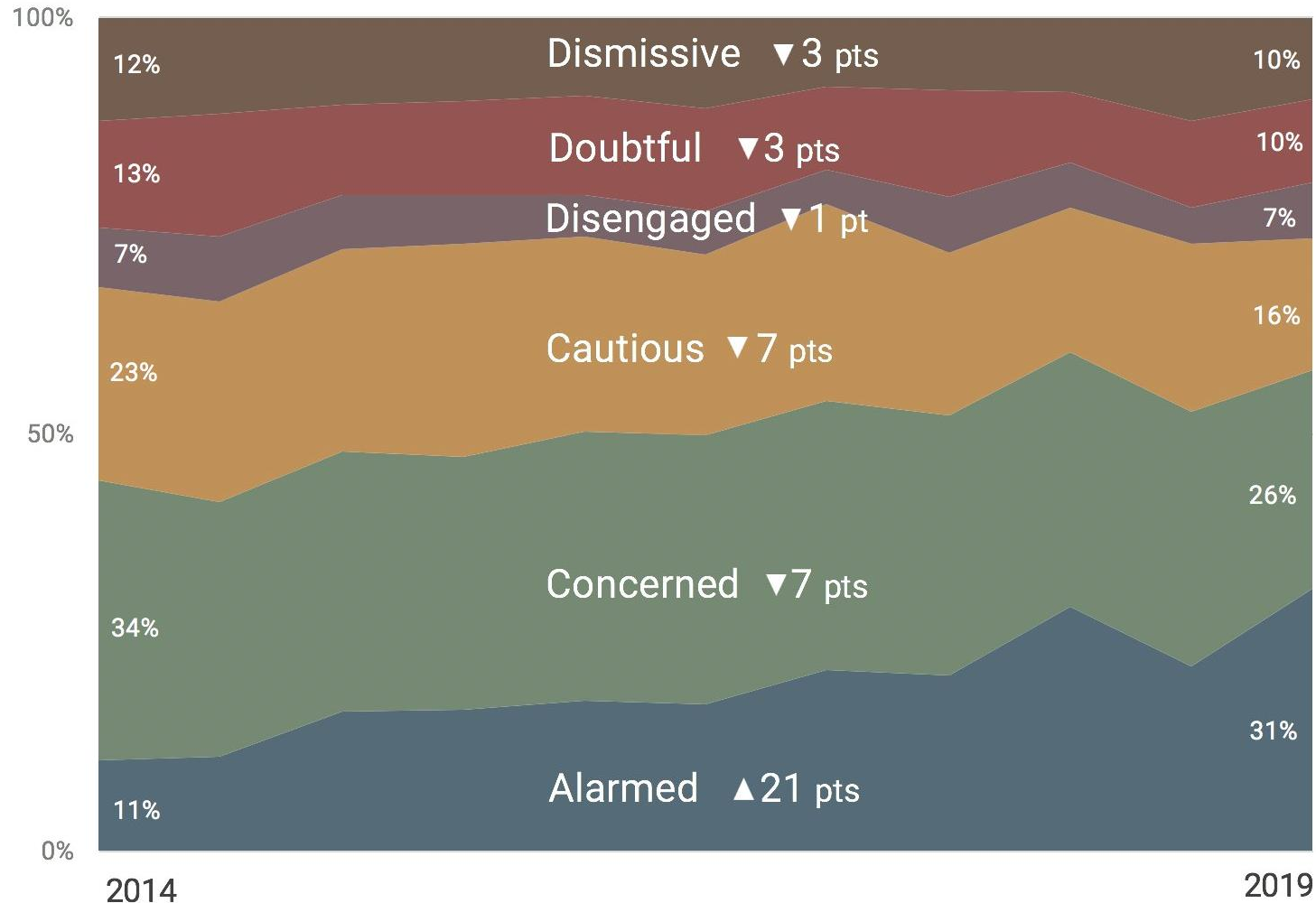
**Where are we now with
(engagement with) climate change?**

Concern about the environment at highest levels on record

Which do you think are the most important issues facing the country at this time?
Please tick up to three. % saying "the environment"




Global Warming's Six Americas: Five-year Trend





CLIMATE CHANGE
— THE FACTS

 Watch now



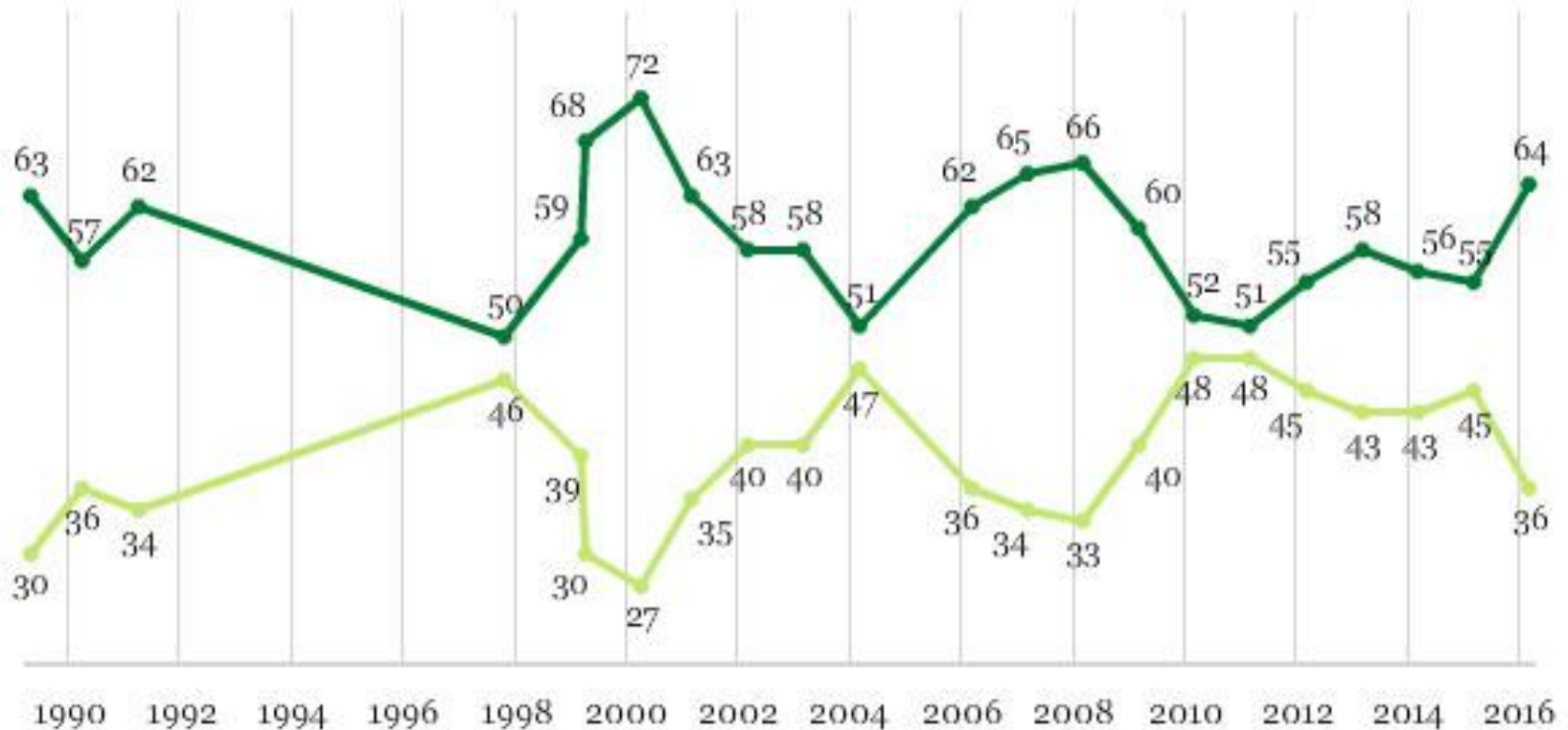
Issue Attention Cycle



Issue Attention Cycle

How Much Americans Worry About Global Warming

■ % Great deal/Fair amount ■ % Only a little/Not at all



GALLUP®

Source: Gallup

“The current level of worry is essentially the same as it was in 1989”



PoortingaW@Cardiff.ac.uk



@wouterpoortinga



Centre for **Climate Change** and **Social Transformations**



[Home](#) [About CAST](#) [Our research programme](#) [Resources](#) [CAST news & blog](#) [Contact us](#)



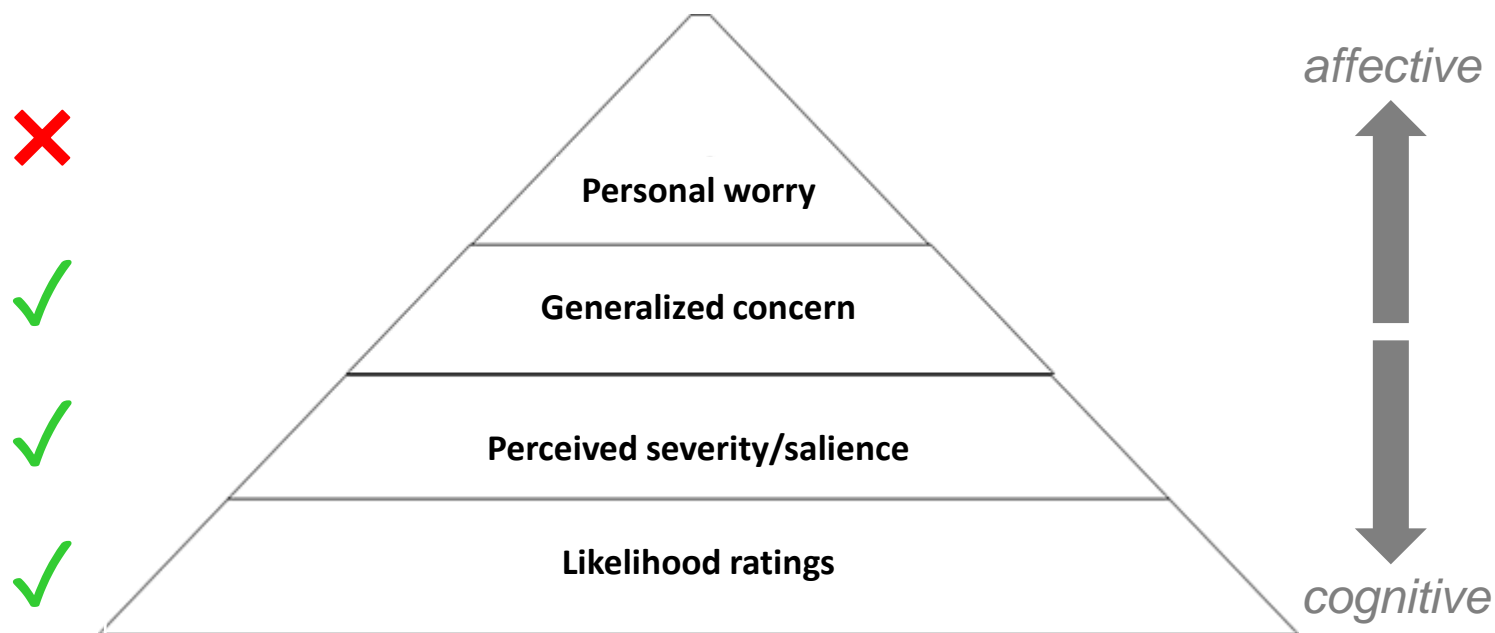
Our Vision

The Centre for Climate Change and Social Transformations (CAST) will be a global hub for understanding the systemic and society-wide transformations that are required to address climate change. At its core, is a fundamental question of enormous social significance: how can we as a society live differently - and better - in ways that meet the urgent need for rapid and far-reaching emission reductions?

"We want to work closely with people and organisations to achieve positive low-carbon futures - transforming the way we live our lives, and reconfiguring organisations and cities."

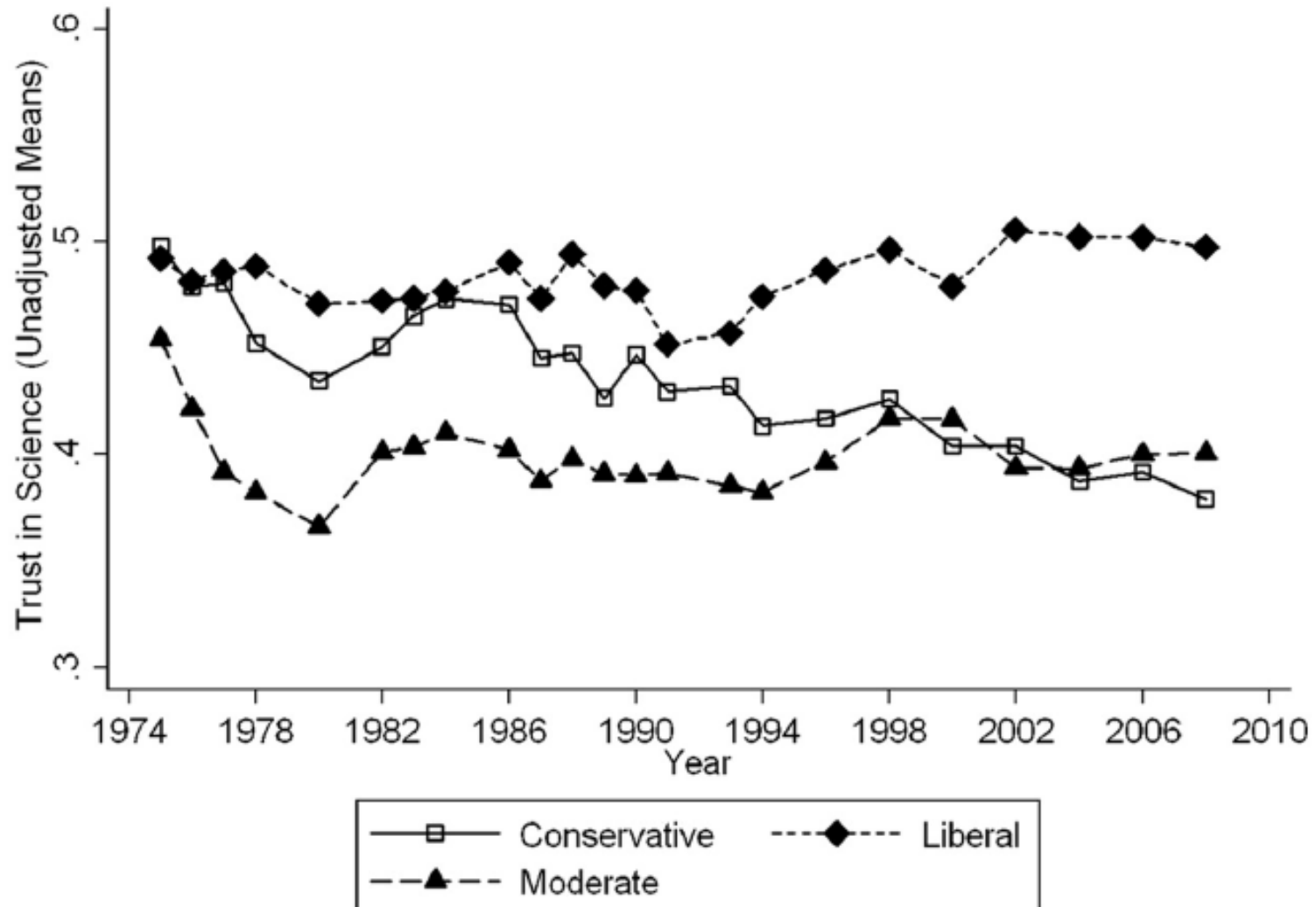


Reserve slides

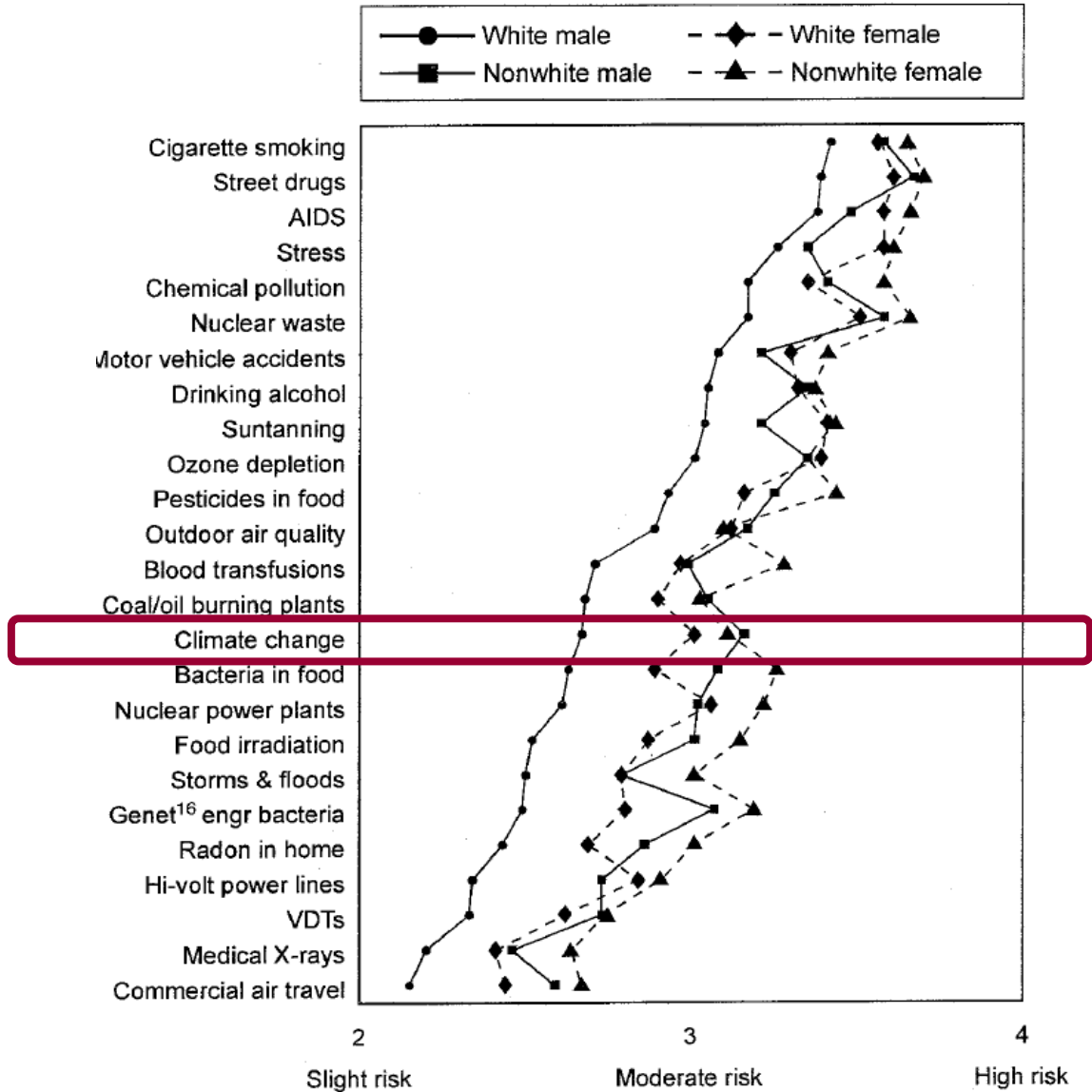


Hierarchy of concern (HoC) model

Experts, scientific consensus, and trust



Individual Factors



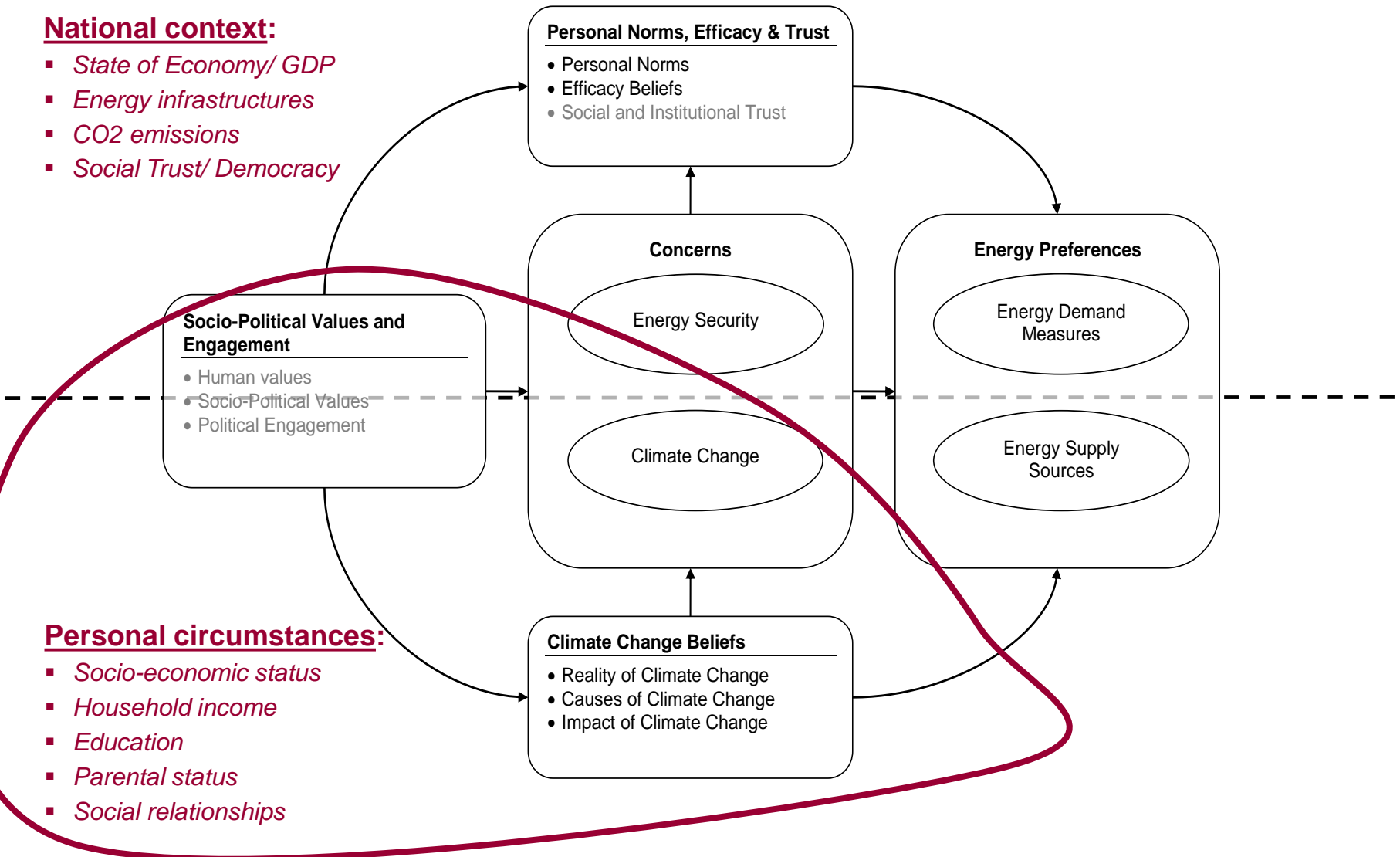
Flynn et al 1994

- New module with new questions designed in conjunction with translation and country experts
- Fielded 2016/17 in 23 countries
- 21 countries from the **EU/EFTA area** (*Austria, Belgium, the Czech Republic, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, and UK*), the **Russian Federation**, and **Israel**
 - total n=44,387
 - high-quality face-to-face interviews
 - probability samples
 - major efforts on response rates



National context:

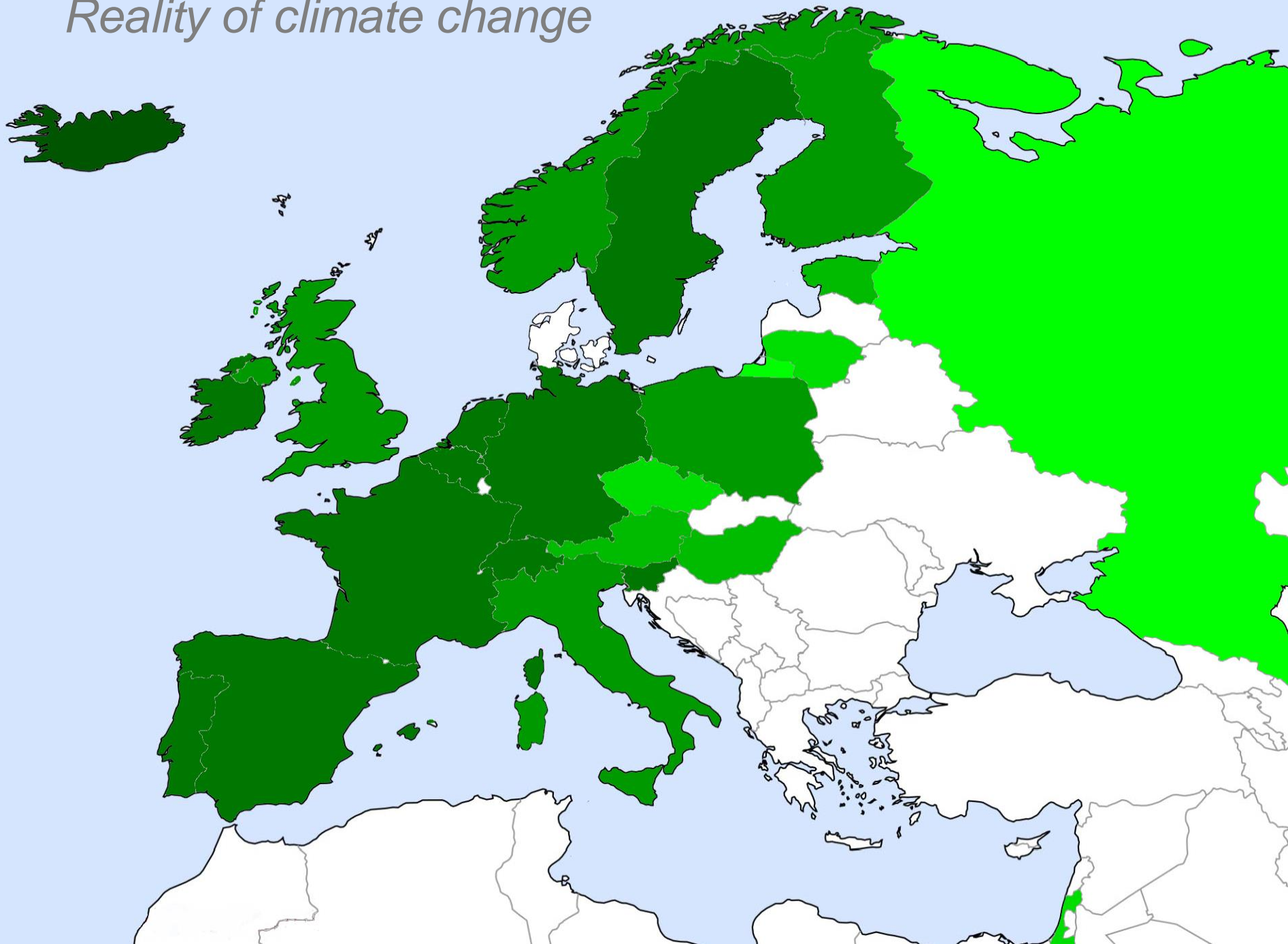
- *State of Economy/ GDP*
- *Energy infrastructures*
- *CO2 emissions*
- *Social Trust/ Democracy*



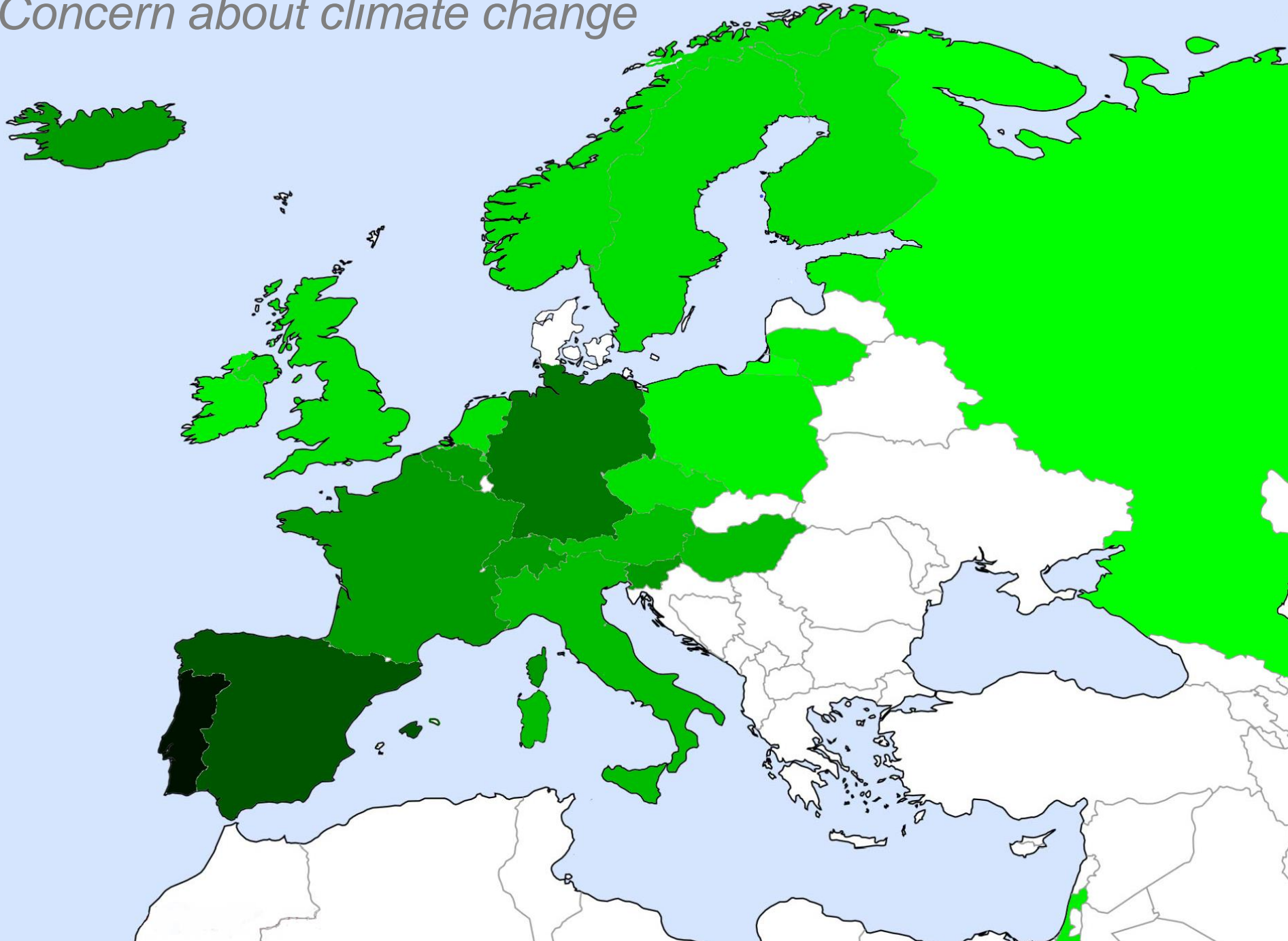
Personal circumstances:

- *Socio-economic status*
- *Household income*
- *Education*
- *Parental status*
- *Social relationships*

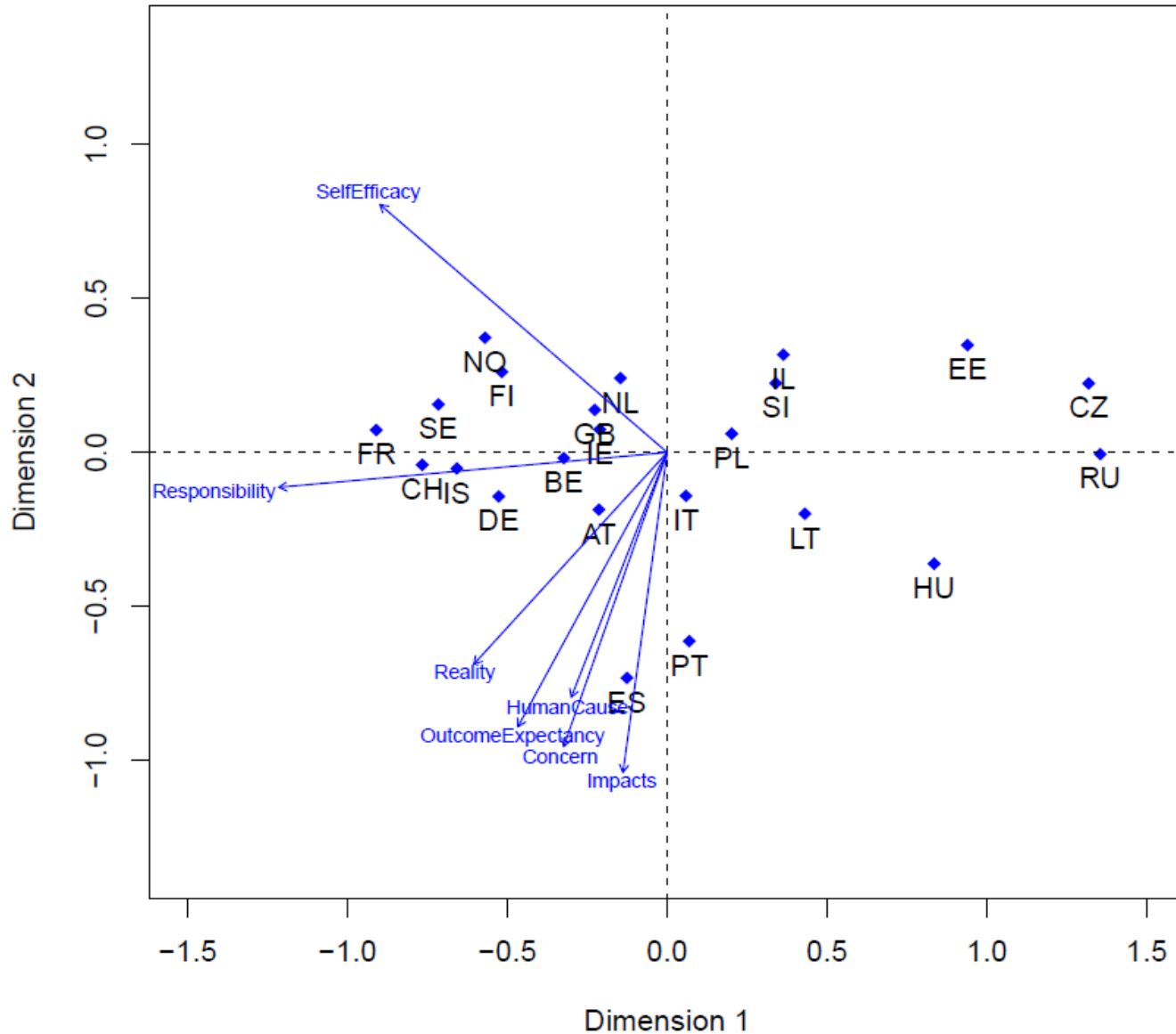
Reality of climate change



Concern about climate change

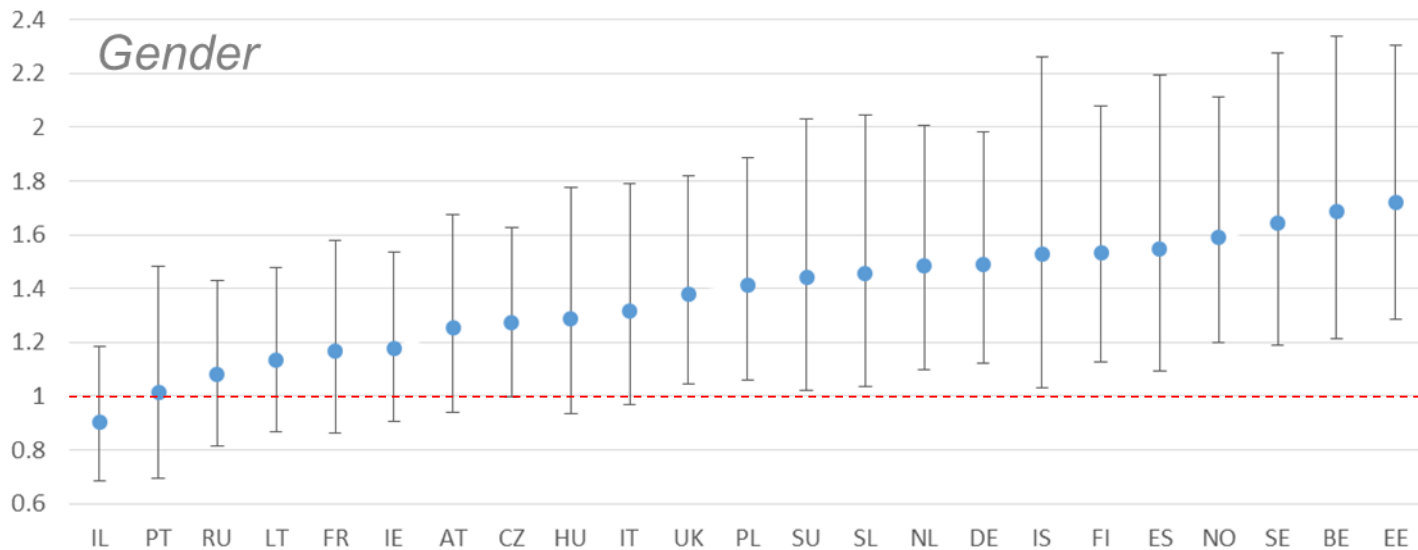
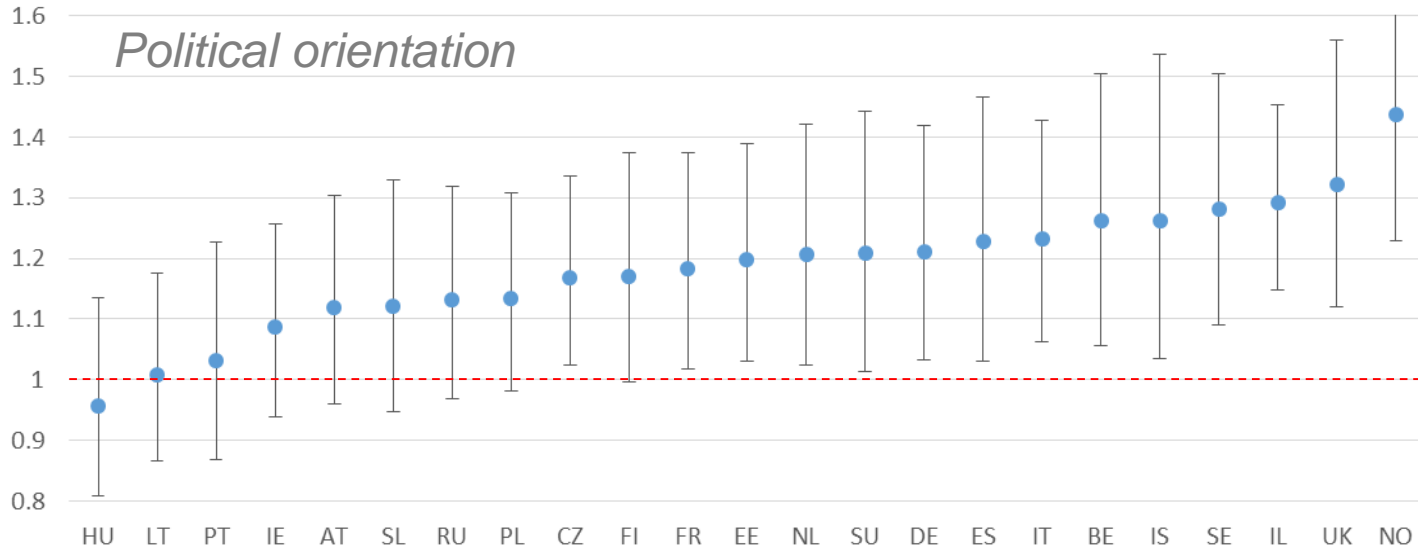


Country Comparisons



Cross-national differences in effects

Attribution Scepticism



How serious of a threat is global warming to you and your family?

% who view global warming as a "very" or "somewhat" serious threat

	2007-2008	2010
Greece	82%	87%
Ecuador	69%	85%
Venezuela	62%	80%
Brazil	76%	78%
South Korea	80%	77%
Moldova	73%	72%
Armenia	65%	60%
Ukraine	52%	54%
Georgia	47%	53%
Azerbaijan	43%	44%
Russia	40%	41%
Belarus	30%	41%