

Dangerous (and Catastrophic) Climate Change: Challenges for Risk Communication and Public Engagement

Nick Pidgeon

School of Psychology, Cardiff University

L'Homme et la Société face aux défis des changements climatiques

Paris 22-23 September 2008



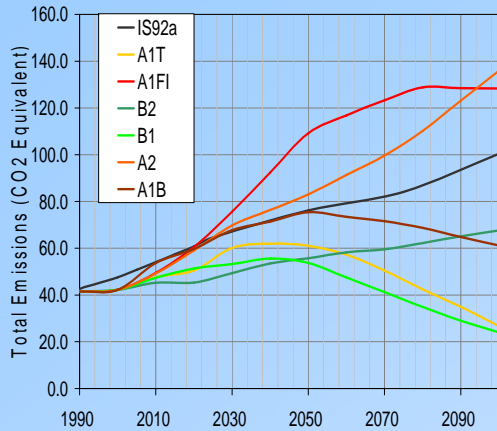
The Leverhulme Trust



‘Dangerous’ Climate Change

- Introduced in UNFCCC 1992 – objective of policy is to *avoid dangerous anthropogenic interference*
- Danger involves *risk and uncertainty* as measured by science
- But also *societal values*
 - e.g. about severity of consequences
 - about acceptability of options for addressing risk

Working with Uncertainty (based on Stern, 2006)



Population, technology, production, consumption

Emissions

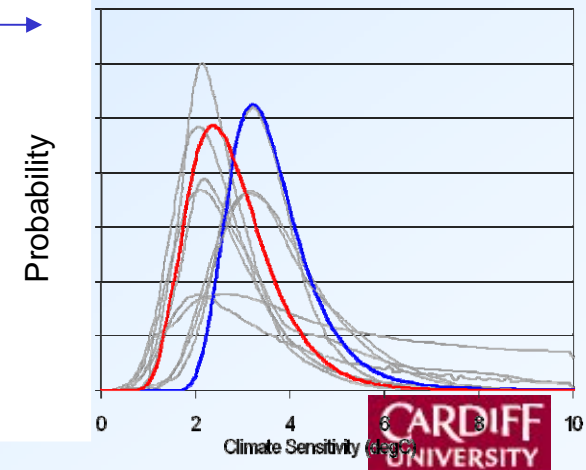
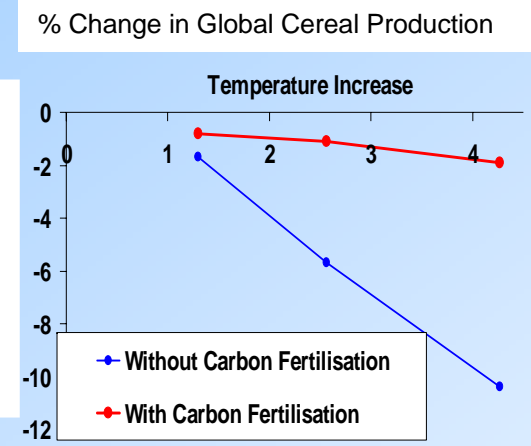
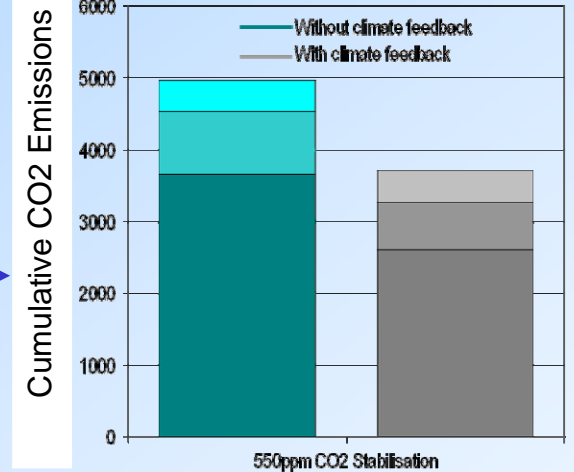
Atmospheric concentrations

Radiative forcing

Temperature rise and global climate change

Direct impacts (e.g. crops, forests, ecosystems)

Socio-economic impacts



Policy Dilemmas

- **Policy makers typically want to communicate when:**
 - **Experts believe very little risk exists and people or the media become exercised (risk amplification)**
- OR**
- **Experts believe a serious risk exists and people appear complacent (risk attenuation)**
- **Risk Dynamics typically involve Uncertainty, Complex Technical Information, Media Pressures and Political Imperatives**







PLEASE KEEP OUT

**HELP CONTROL
FOOT & MOUTH
DISEASE**

**FARMERS
GUARDIAN**

Northumbria
COUNTY COUNCIL

**FOOT AND MOUTH
DISEASE ORDER 1983**

FOOT AND MOUTH DISEASE (CONTROLED)
ENGLAND (1983) (SI 1983 100)

Cases of Foot and Mouth Disease
have occurred in Northumbria and
this highly infectious disease for livestock

CONTROLLED AREA

ENTRANCE TO THIS PATH IS PROHIBITED

Controlled Area Order is an offence
under the Act of 1983

01667
County Council Offices
Newcastle City Centre
Northumbria County Council
NE1 1RU

Ministry of Agriculture, Fisheries and Food
Helpline: 0845 0804141

Foot and Mouth Disease Outbreak 2001
As At 08:00HRS 23NOV01

Remaining Premises

- ▲ Confirmed
- △ Form A

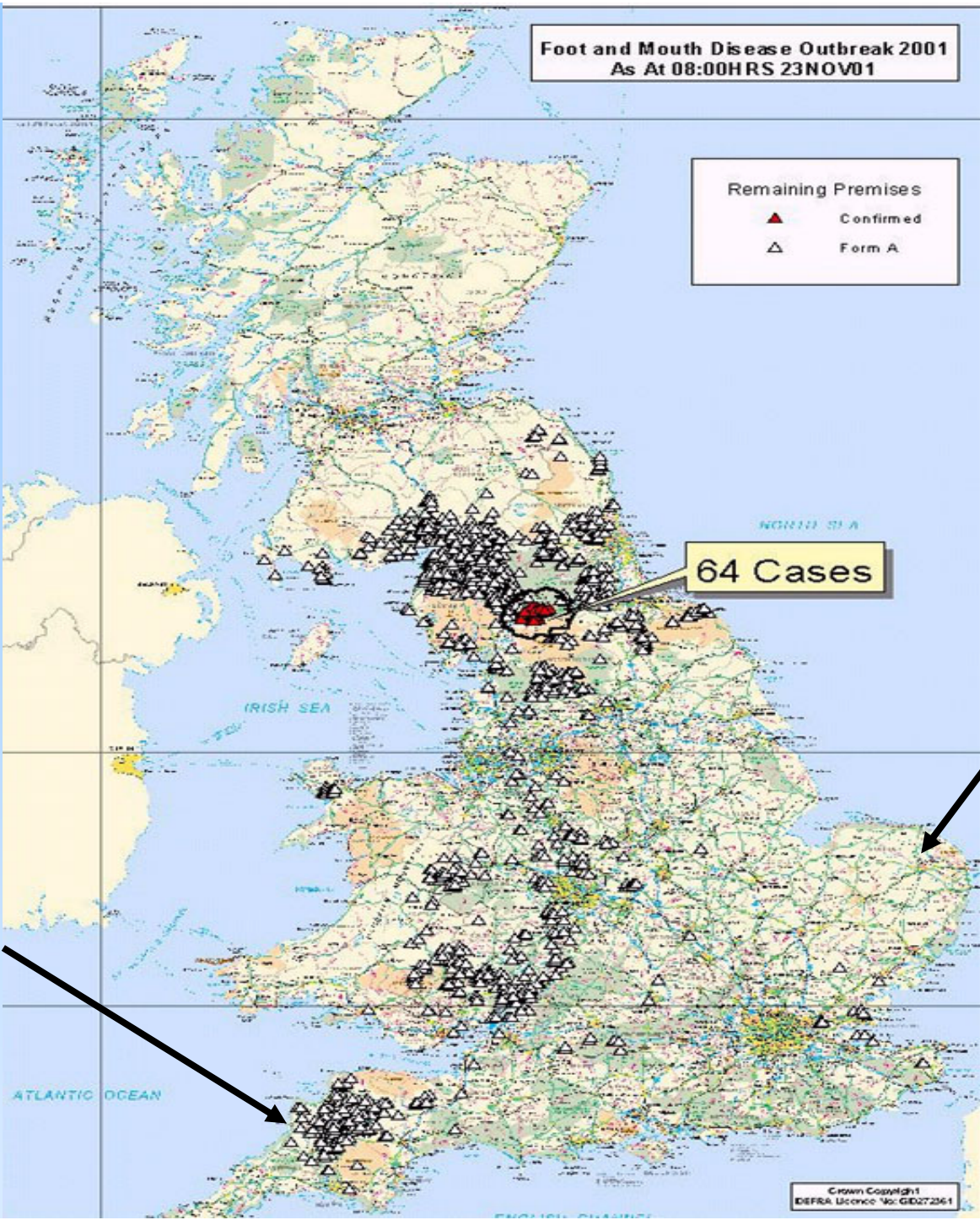
64 Cases

Norwich

Bude



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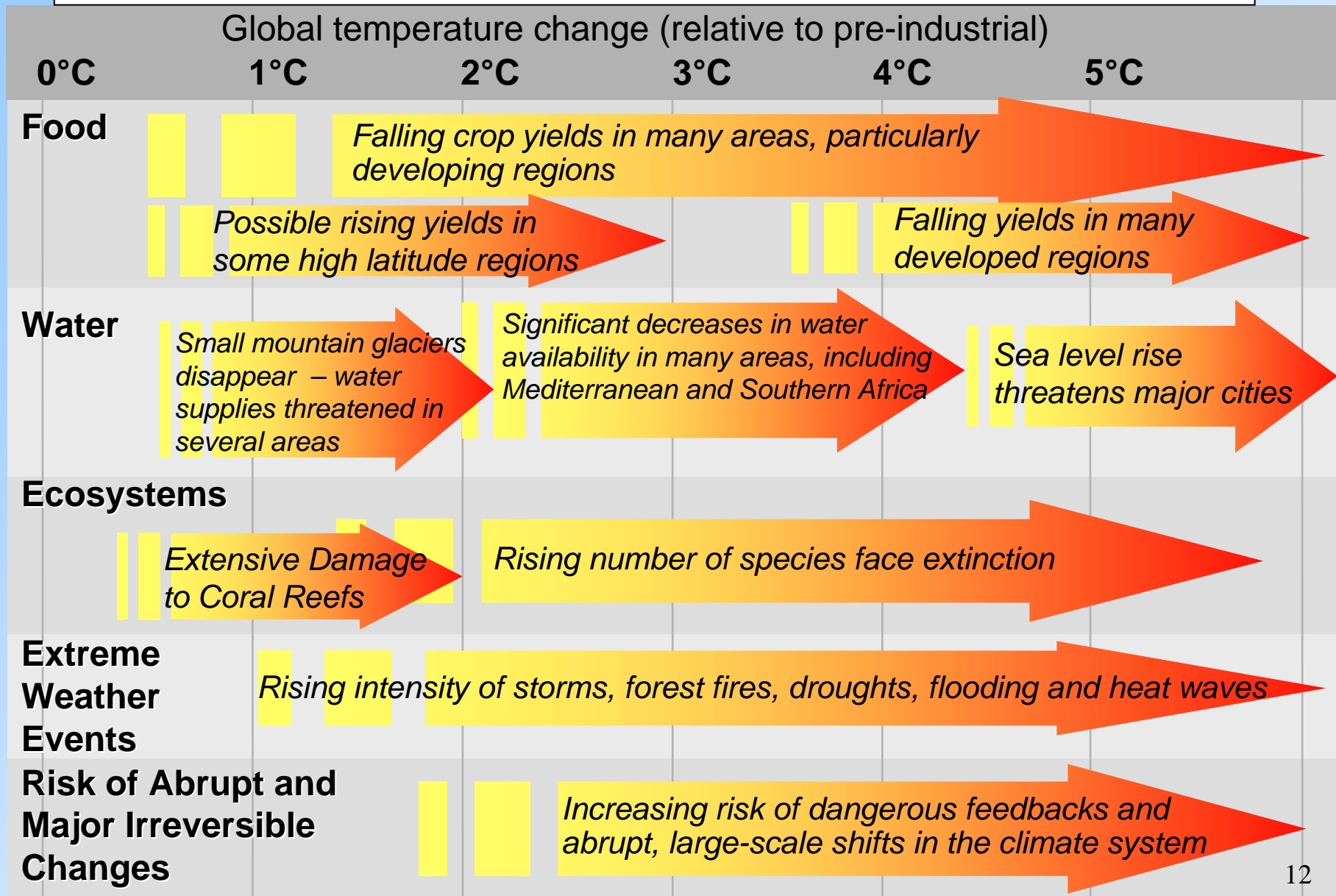






Saturday 19
February 2005

Projected Impacts of Climate Change (source Stern 2006)



Risk - Basic Concepts

- **RISK – two principal definitions**
 - **Likelihood (of harm)**
 - **Consequence x Likelihood (of harm)**

Risk Perception Research

- It is often argued people misperceive risks, or in some way think ‘irrationally’
- But, if asked:
 - people often know the relative number of deaths per year (e.g. fires in the home versus road accidents)
 - SO what other things are driving concerns?

NEED FOR PROPERLY RESEARCHED EVIDENCE!

Qualitative Factors

(Source DoH Communicating Risks to the Public, 1998)

The following usually make risks seem less acceptable:

- Involuntariness
- Inequitable
- Inescapable / many exposed
- Unfamiliar / novel
- Man-made
- Hidden / Irreversible
- Danger to children
- Particular 'dread' outcomes (e.g. cancer)
- Victims identifiable
- Appears poorly understood by science
- Contradictory responses
- Distrust of authorities



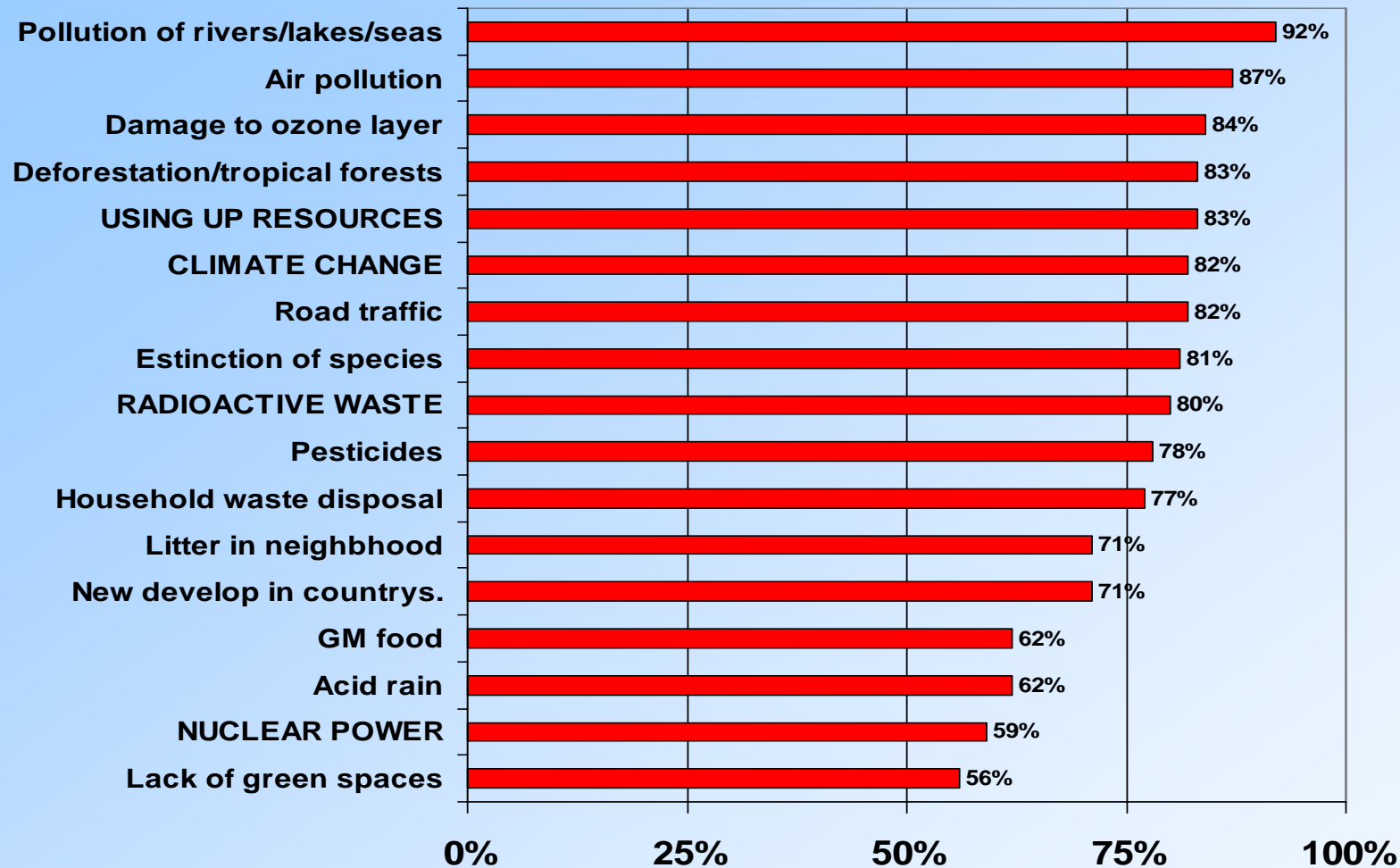
How important are these issues to you?

(Base GB, 1547, 2002) Scale: 1= Not at all important, 5 = Very important

Health (P)	4.84
Partner and family (P)	4.79
Law and order (S)	4.71
Personal safety (P)	4.70
Education (S)	4.66
Being independent (P)	4.62
Privacy (P)	4.58
Having a comfortable life (P)	4.50
Personal finance (P)	4.46
Social relations/Friends (P)	4.44
Environmental protection (S)	4.43
Terrorism (S)	4.41
RADIOACTIVE WASTE	4.22
The economy (S)	4.21
Animal welfare (S)	4.15
Excitement/Fun (P)	4.11
World poverty (S)	4.06
Tackling human rights (S)	4.03
Work (P)	3.99
CLIMATE CHANGE	3.84
Population growth (S)	3.71
GENETIC TESTING	3.62
RADIATION FROM MOBILE PHONES	3.39
GM FOOD	3.29
Religion (P)	3.07

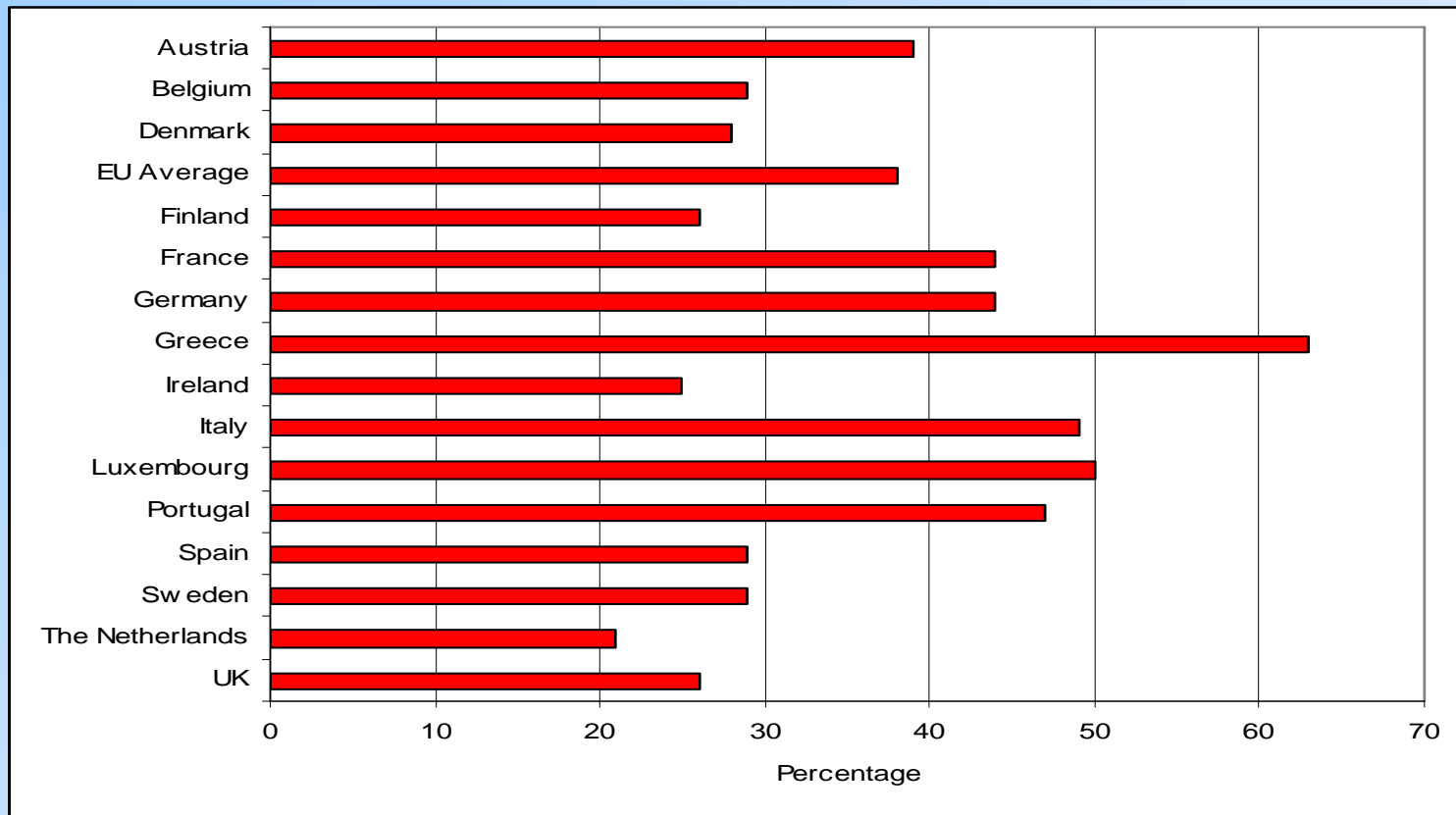
How concerned are you about the following issues?

(Base, GB, 2005, n=1491)



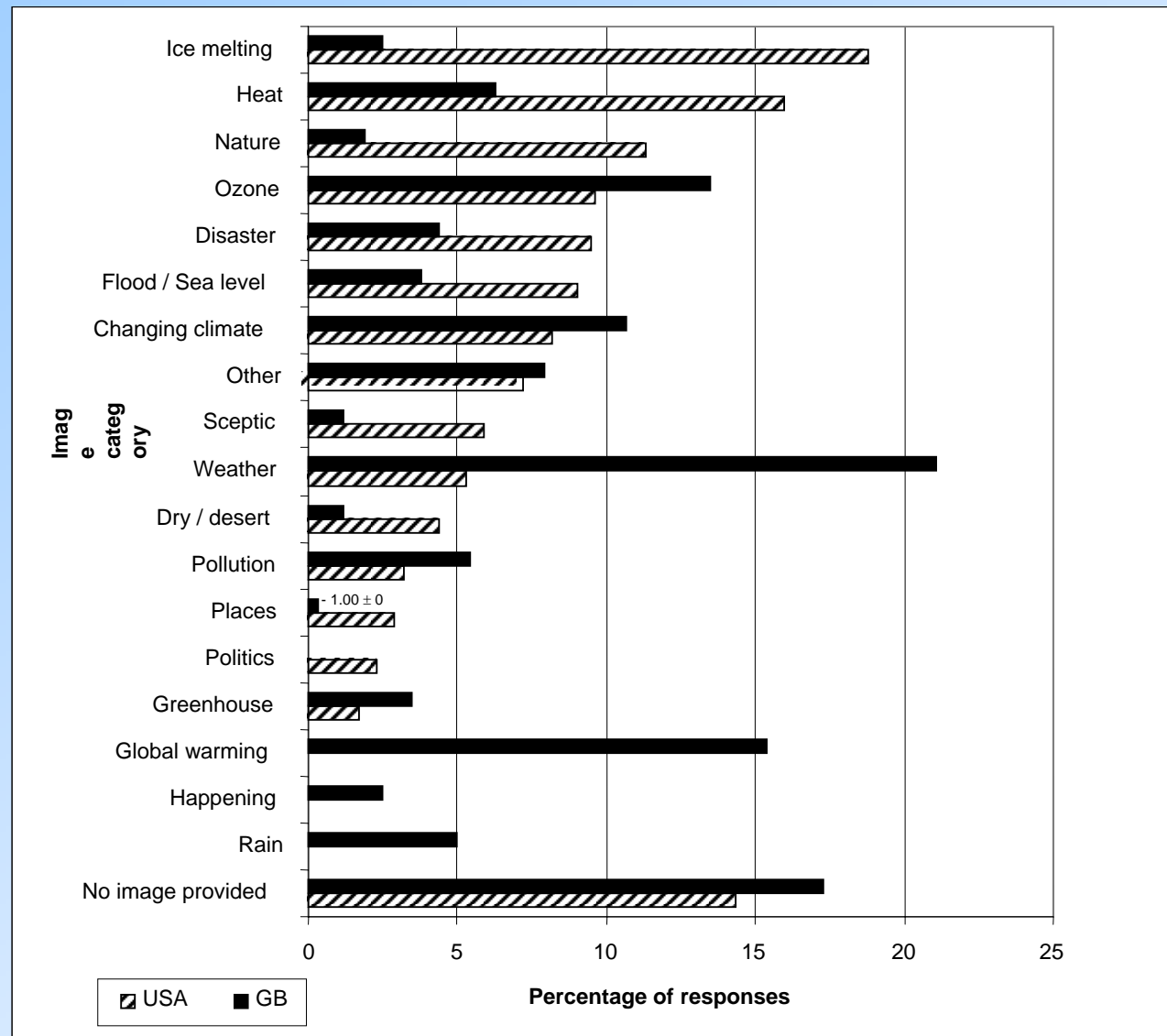
Aggregate % of 'very concerned' and 'fairly concerned'

Concern about climate change in EU-15 Member States (2002).



Percentage of respondents “very worried” about climate change in EU-15 Member States (EORG, 2002).

Images associated with Global Warming (US) and Climate Change (British) (Lorenzoni, Lieserowitz et al, 2006)



Example Comments - 2002 Focus Groups

Paula: The ice caps melting and the sea levels rising, parts of America will disappear.

Jack: We'll lose... the Antarctic will start to disappear won't it? There will be a lot of lake-land villages [that] will start to disappear. [...].

Sue: I suppose everyone will have different locations to live in won't they? They'll just learn to move around and adapt.

(Heysham, climate change)

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(Heysham, climate change)

Do you think the world's climate is changing, or not? (2005, n=1491)

91% Yes

4% No

5% Don't know

What do you think is causing the world's climate to change? (%)

Air pollution	39
Cars / planes / transport	31
Burning fossil fuels, such as coal and oil, from power stations	29
Industry / factories / emissions from factories	19
Loss of ozone layer	19
Global warming (unspecified)	17
Deforestation / logging / clearing of rainforests	15
Carbon dioxide	15
Man – made (unspecified)	13
Burning trees / forest fires	10
Natural causes (unspecified)	9
Oil / gas / coal emissions	9
Nuclear power	5
Other	21

Climate Change Risk Perceptions

In the past research has shown the public:

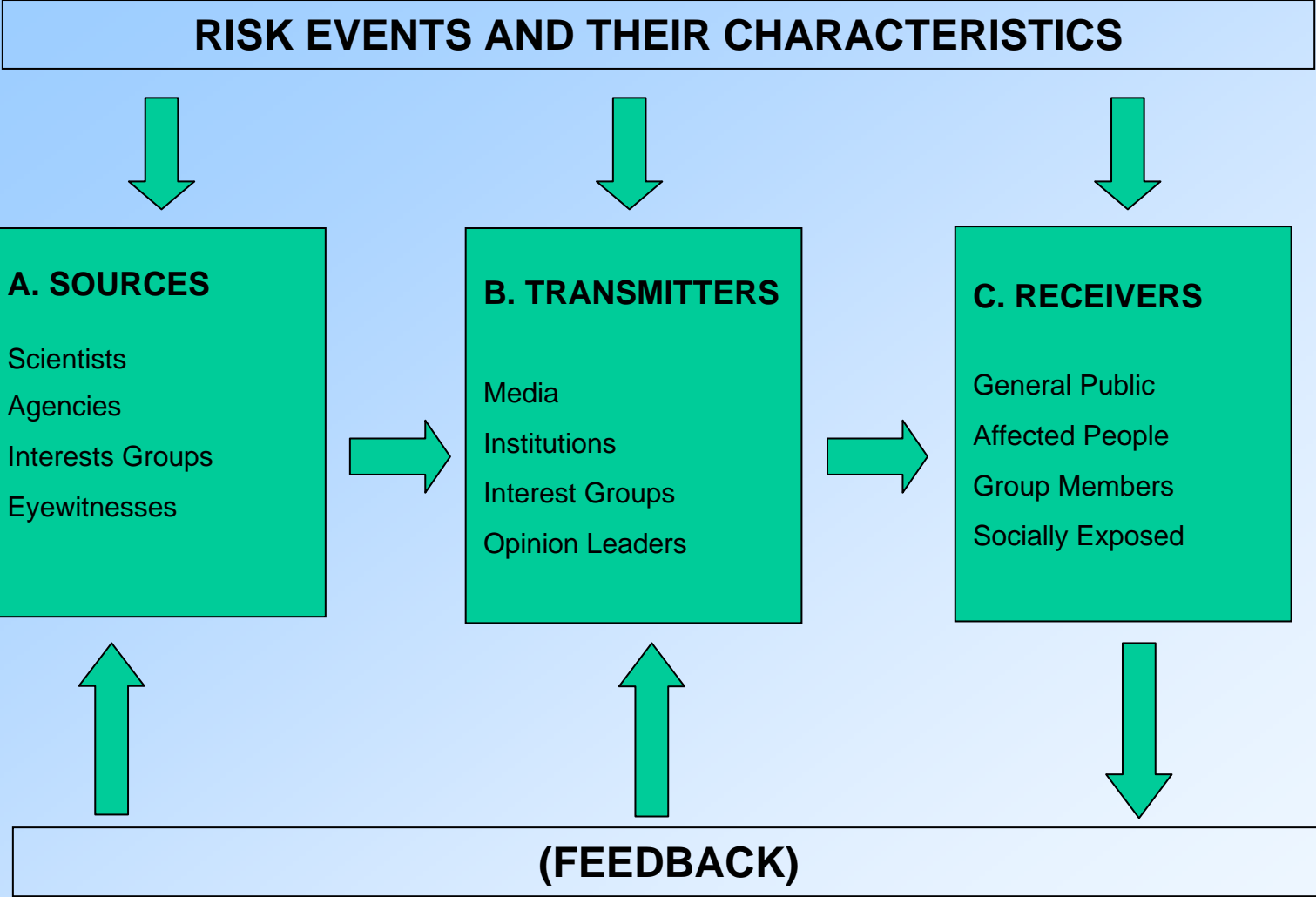
- Show increasing concern
- BUT think the science is contested
- Can confuse cc with other environmental issues (e.g. ozone)
- View it as a distant problem affecting other people and times
- Recognise the effects (heat, melting glaciers) but don't connect these with anthropogenic causes (energy use, deforestation)

Lorenzoni and Pidgeon (2006) *Climatic Change*, 77, 73-95. Lorenzoni, Pidgeon and O'Connor, R. (2005) *Risk Analysis*, 25, 1387-1398. Lorenzoni et al (2006) *Journal of Risk Research*, 9(3), 265-281.

- This situation may now be changing – but needs further research and analysis

Guidelines for Risk Communication -1

- **Contextualise or even avoid ‘risk’ numbers - what matters more is whether it will affect me and if yes what do I need to do for protection**
- **Need to understand and address people’s actual concerns and framings (not just your own).**
- **Try to find out what people think / are picking up – it is likely to involve more than risk (messages about exposure, control, fear, who to trust etc.)**
- **Target knowledge gaps if necessary – but not ‘information for its own sake, or to persuade’**



Source: Pidgeon, Kasperson and Slovic *The Social Amplification of Risk*. Cambridge, 2003.

Media Triggers

(Source DoH Communicating Risks to the Public, 1998)

A possible risk to public health is likely to become a major media story to the extent it involves:

- Questions of Blame
- Alleged Secrets and Cover-ups
- Human Interest
- Links with High Profile Issues/Persons

- Conflict
- Signal Value
- Many People Exposed
- Strong Visual Impact
- Links to Sex or Crime

Guidelines for Risk Communication - 2

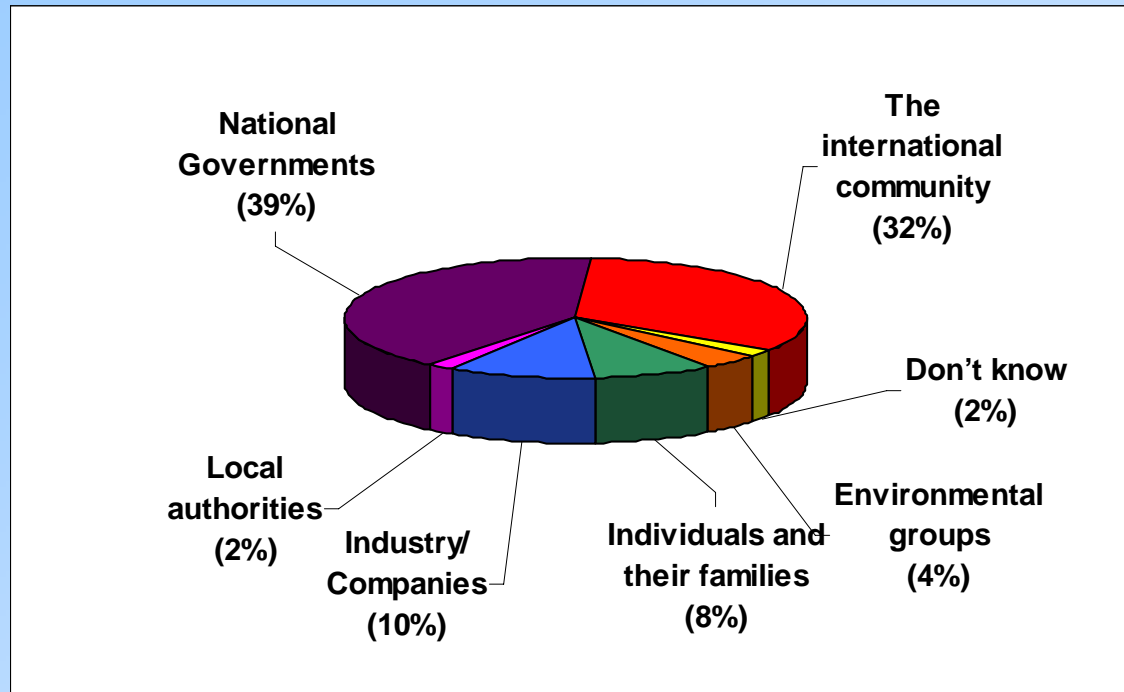
- **The ‘Public’ is not a single entity – so consider the need for multiple messages**
- **Build relationships with the media well in advance, consider press releases carefully, and above all don’t be afraid to talk to them. In the absence of authoritative comment they will use other sources.**
- **If possible use trusted sources.**
- **Proportional messages linked to actions people can take**
- **Wherever possible evaluate the impacts of communications**

Barriers to Engaging With Climate Change

Lorenzoni, Whitmarsh and Nicholson-Cole, *Global Env Change*, 2007

- Lack of knowledge
- Uncertainty and Scepticism
- Distrust in Information Sources
- Externalising Responsibility
- Distant Threat
- A Marginal Threat
- Fatalism and Helplessness
- Lack of Political Action
- Lack of Business Action
- Worry about Free-riders
- Social Expectations (to consume)
- Lack of Enabling Initiatives

‘Which one, if any, of these do you think should be mainly responsible for taking action against climate change?’



(n=1491, Source Poortinga, Pidgeon and Lorenzoni, 2006)

People see others as responsible, consistent with other research. Also sets a dilemma as people also tend not to trust these institutional actors.

Climate Risk Governance

- Western democracies in particular face a governance trap.
 - People see politicians and policy makers as primarily responsible (because they reason the problem is too big for them) hence are not impelled to act
 - In turn politicians want people to act, while at the same time cite the electoral cycle as a reason why they will not impose what they see as unpopular environmental measures

Thank You

To collaborators: Karen Henwood, Irene Lorenzoni, Wouter Poortinga, Karen Bickerstaff, Peter Simmons, Tim O’Riordan, Mike Hulme, MORI Social Research



Website -

www.understanding-risk.org

PidgeonN@Cf.ac.uk

The Leverhulme Trust



- Small steps

Developmental Stages of Risk Communication (1970s-1990s)

- 1) Get the numbers right
- 2) Tell people the numbers
- 3) Explain what the numbers mean
- 4) Show people they accepted similar risks
- 5) Show people it's a good deal for them
- 6) Treat people nicely
- 7) Make people partners
- 8) (and if all else fails) All of the above

Fischhoff, B. 1995 Risk perception and communication unplugged: twenty years of process. *Risk Analysis*, 15, 137-145.

Guidelines for Risk Communication

- Need to understand and address what is driving people's actual concerns (not just your own) through proper **EVIDENCE**
- Target knowledge gaps if necessary – but not ‘information for its own sake, or to persuade’
- Used trusted sources to communicate.
- Understand how the media works.

Models of 'Trust'

Structural Attributes of an Agency

- **Particularly Competence and Care (we trust organisations, groups and others who are expert and act in our interests)**
- **However, there is always some scepticism. Trust is rarely unconditional**

Social Agreement

- **Based Around Shared Social Values (we trust organisations, groups and others who share our goals or identities)**

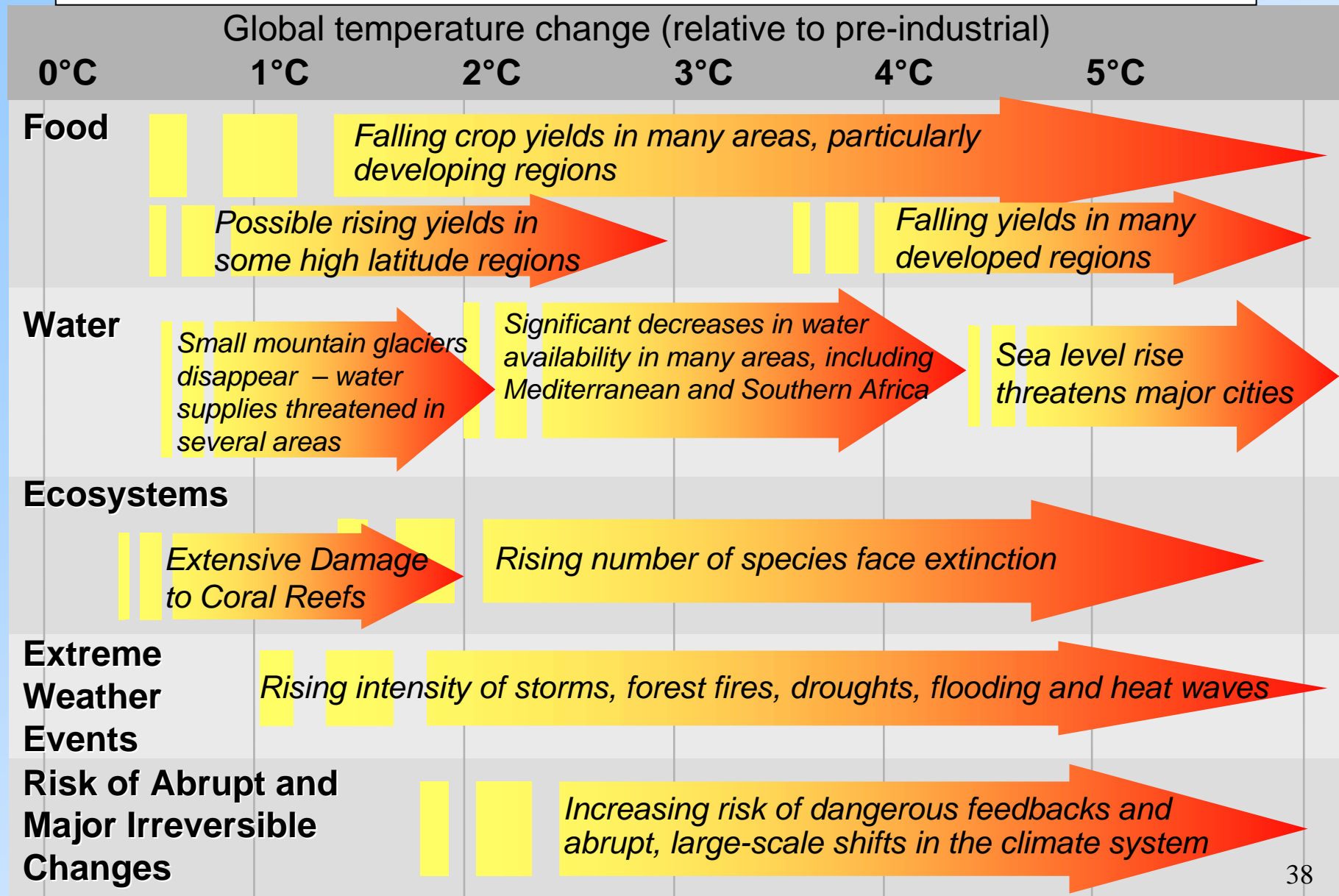
Emotion (Affect)

- **Sometimes trust in organisations can be judged by association with positive or negative beliefs about the hazard they regulate / manage**

Overview

- CCC

Projected Impacts of Climate Change (source Stern, 2006)

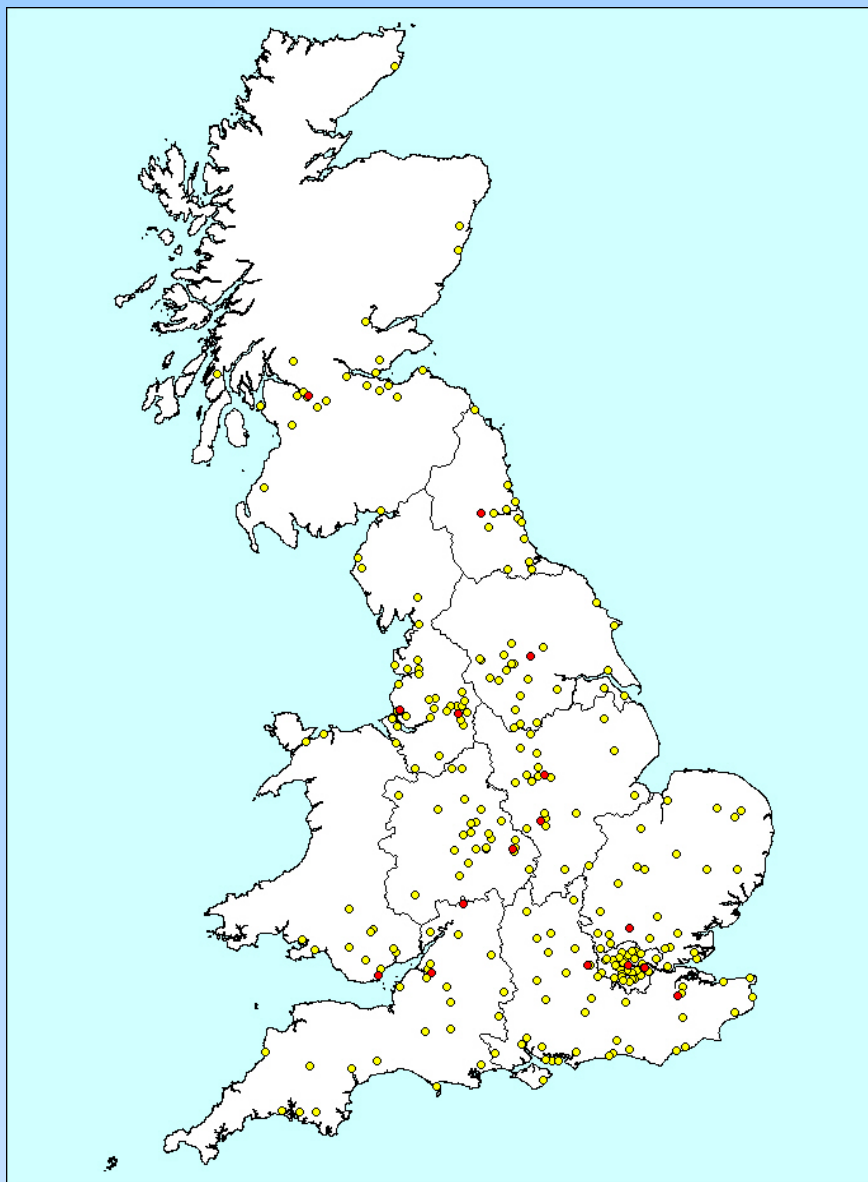


Difficulties of Communicating Risk and Uncertainty

- **Engineering ‘Risk’ = Probability x Consequence**
- **Lay beliefs involve more than just ‘risk’**
 - **Severity and Nature of Consequences**
 - **Cultural Orientations (there is no single ‘public’)**
 - **Social Amplification Effects**
 - **Trust in Risk Managers / Science**

Some Consequences

- **Communicating just probabilities may:**
 - be confusing (e.g. 1/1000 vs 1/10,000)
 - hence risk comparisons sometimes help
 - but they may still ignore people's key concerns
 - and/or appear patronising
- **Need for new approaches that respect people's actual concerns about risk issues**



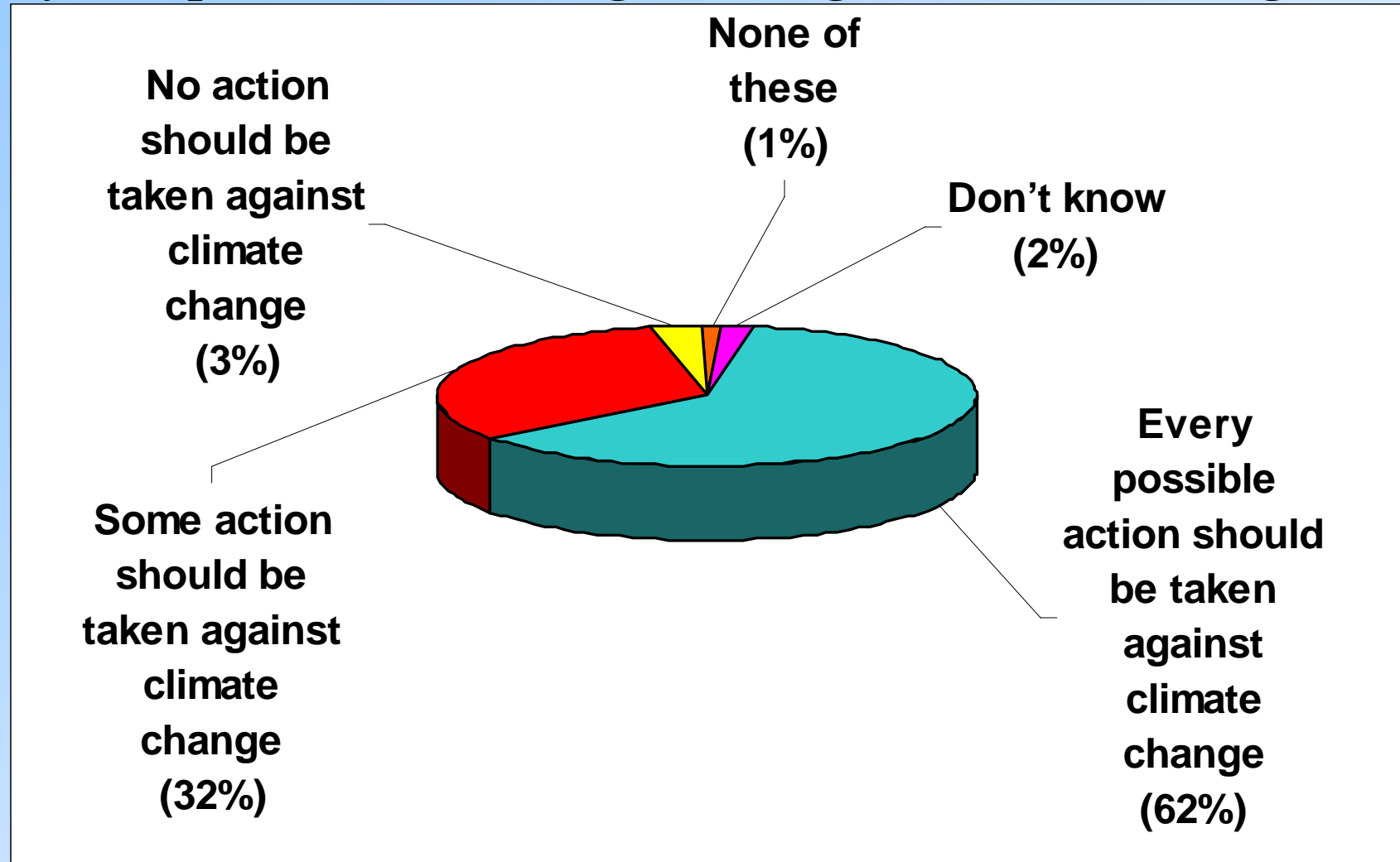
Sample points in Great Britain

2005 UEA / MORI Energy Survey

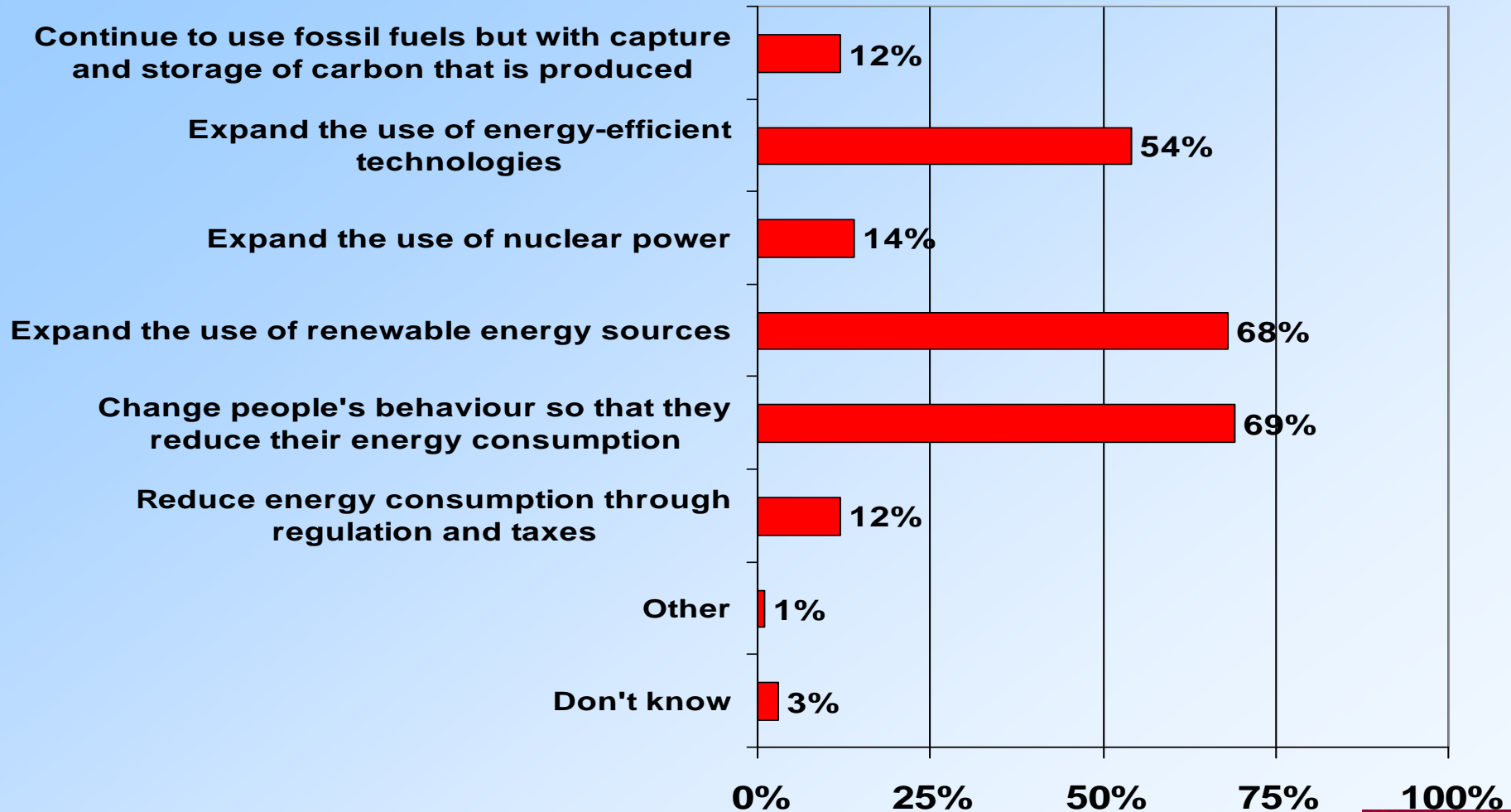
1,491 adults aged 15+

Fieldwork between
1 October and 6 November
2005

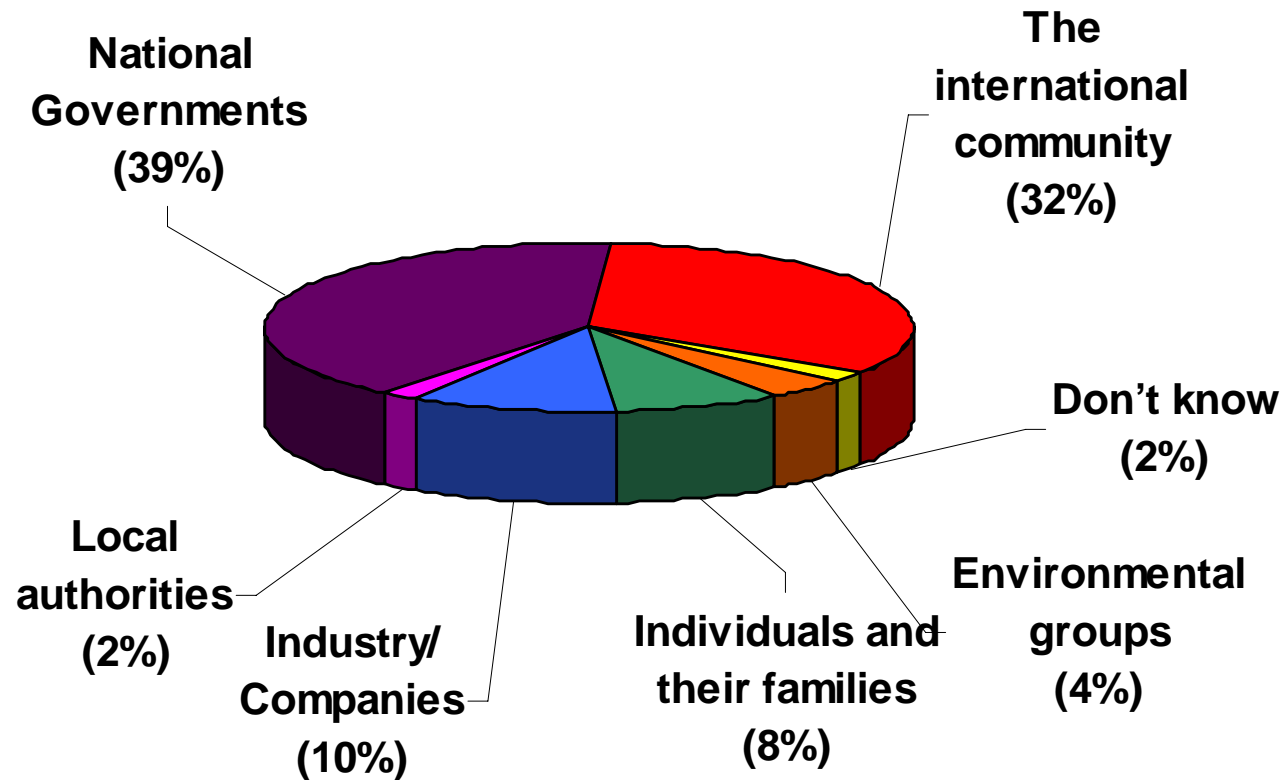
Which, if any, of the following statements most closely describes your opinion about taking action against climate change?



Which two or three, if any, of these ways would best tackle climate change?

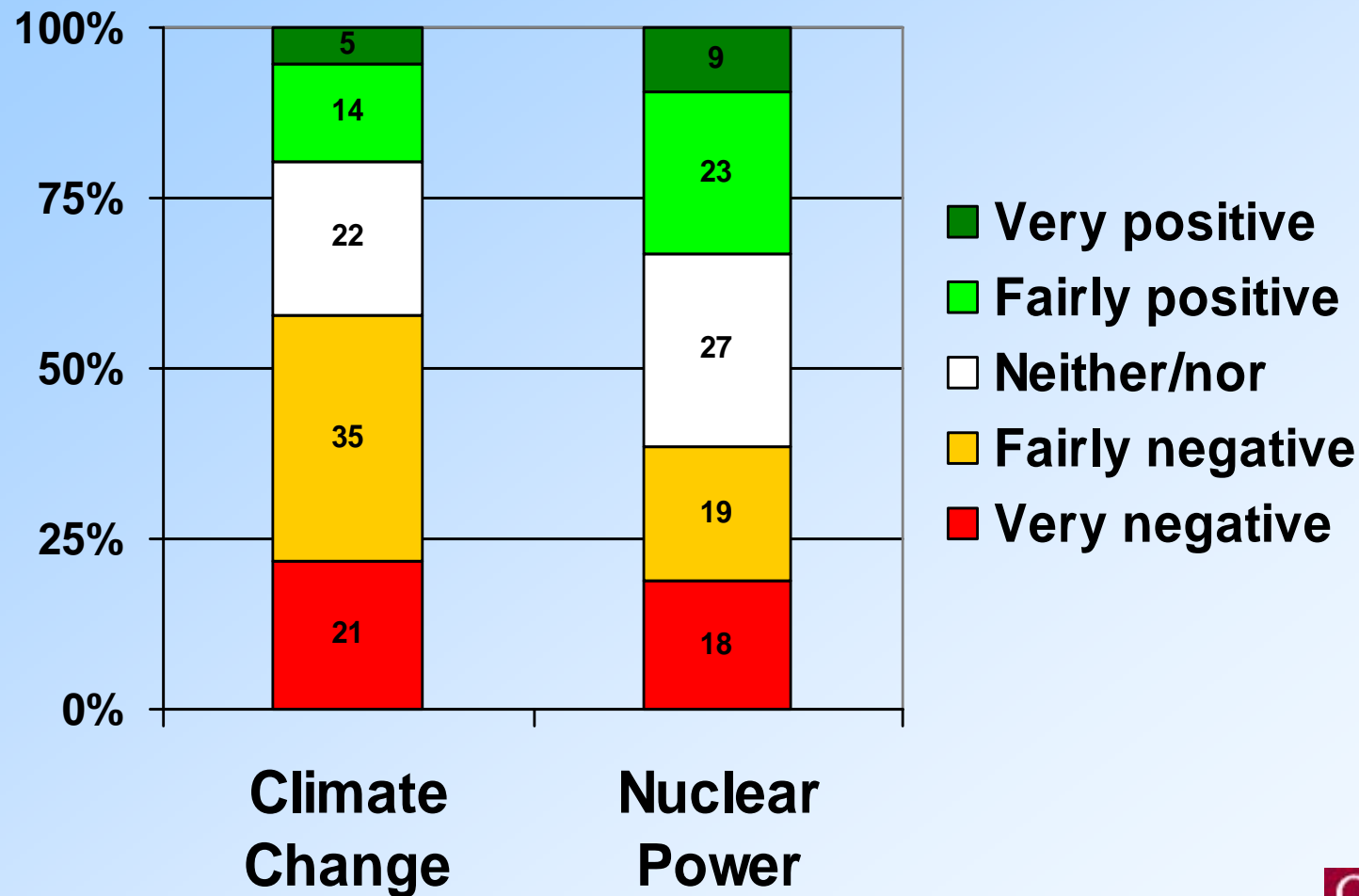


Which one, if any, of these do you think should be mainly responsible for taking action against climate change?



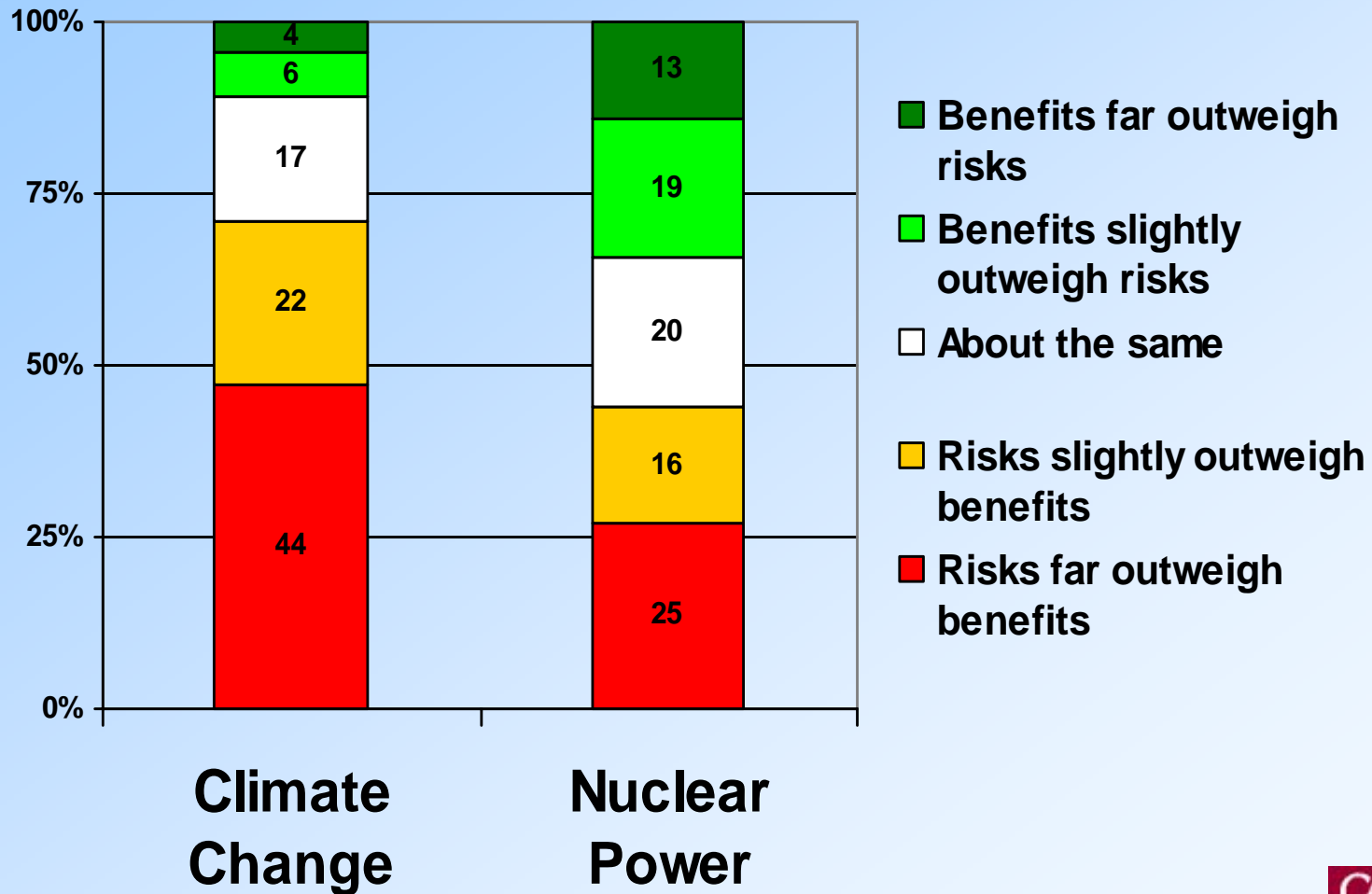
Overall how do you feel about ... (% in 2005)

(N=1,491)



Risks versus Benefits...(% in 2005)

(N=1,491)



Thank you

The survey report can be downloaded from the
Tyndall Centre website

www.tyndall.ac.uk

Tyndall°Centre
for Climate Change Research

The Leverhulme Trust

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