

Written evidence submitted by ClimateXChange (CLC031)

ClimateXChange provides responsive analysis and research to support improved public policy development and implementation in Scotland on climate change and the transition to a low carbon economy.

ClimateXChange is a collaborative centre, with input from sixteen of Scotland's leading research and higher education institutions.

We have chosen only to address questions 1 to 3 in the consultation.

1. What is the current state of public understanding of what is meant by climate change? How has this changed in recent years?

To what extent is the consensus on climate change among scientists reflected in public opinion?

1.1. Despite an almost unparalleled scientific consensus on the main climate change issues and efforts to communicate these to the public, there is no equivalent consensus in public opinion. The chief reasons for this are psychological and political. Some of them are related to: 1) the time taken to form or change public opinion; 2) partisan politics; 3) biased or inaccurate media coverage (including that driven by the need for balance – giving equal air time to two competing opinions counts as balance even if the scientific community is 99% behind one of them); 4) psychological (temporal, spatial) distance from climate change causes and effects; 5) resistance to admit the need for behaviour change; 6) lack of empowerment; 7) prioritisation of other concerns and risks over climate change (economic, health, security, etc.).

Current state and changes in awareness of climate change in the UK

- 1.2. Overall awareness and concern about climate change has been increasing internationally, especially over the last decade. According to Defra (2002) there is almost universal awareness of climate change in England. This does not necessarily mean detailed understanding of the important aspects of climate change such as causes and effects, uncertainty and risk, impact and solutions. Nor does this necessarily correspond to behavioural change or support for policy measures on mitigation and adaptation to climate change effects.
- 1.3. In the last three or four years some decline in public interest in climate change was registered in a number of polls and surveys in several countries including the UK. Respondents in these surveys expressed higher levels of uncertainty or scepticism about anthropogenic climate change over the recent several years (Gallup, 2009; BBC climate change poll, 2010; Spence et al. 2010). According to Whitmarsh (2011) the number of British people believing that claims about climate change had been exaggerated almost doubled from 15% to 29% between 2003 and 2008. This increase in scepticism may be related to issues around the communication of scientific uncertainty to the public.
- 1.4. Believing the climate change message still allows some variance in certainty of the belief. The level of certainty in some groups of population can be affected by events and can change over time. For example, fluctuations in short-term weather conditions can affect public opinion. Rising scepticism can also be linked to the media campaigns and allegations of biased reporting by climatologists (e.g. 'Climategate'). However, Scruggs and Benegal (2012) identify the economic recession as the main cause of the recent decline in public concern about climate change. They also suggest that concern will come back with improvements in the economy.
- 1.5. On a longer timescale the evidence from research on public understanding of climate change indicates widespread awareness and significant concern, but limited behavioural response corresponding to these beliefs.

1.6. The results of survey studies and opinion polls are often inconsistent, because the context and framing of the questions play a very significant role. Framing effects show small differences in the wording of questions or the context of surveys results in big discrepancies in the outcome. For instance when respondents are not provided with a checklist of causes, they demonstrate less understanding of anthropogenic causes (e.g. Norton and Leaman, 2004). Framing can affect not only self-reported perceptions of the respondents but also result in attitudinal and behavioural changes.

Ipsos MORI Survey, 2010 results

1.7. The survey conducted in January-March, 2010 by Ipsos MORI involved a representative quota sample of 1,822 respondents residing in England, Scotland and Wales (Spence, et. al., 2010). It found that:

- 78% of British respondents believed “that the world’s climate is changing”, with 8% reporting “not knowing”
- 89% of British respondents believed that human activities were playing a causal role in climate change.
- 41% of British respondents believed that they were already experiencing the effects of climate change.
- 71% of British respondents reported that they were “very concerned” or “fairly concerned” about climate change, with an additional 19% indicating some level of concern.

2. Which voices are trusted in public discourse on climate science and policy?

Climate change discourse, the media and other voices

2.1. Climate change is a politicised debate involving conflicting interests and challenging societal and individual habits. The discourse on climate change is complicated by difficulties in communication between science, policy, the media and the public. There is space for miscommunication, resistance and politicisation at any stage of the discourse.

2.2. There are important differences in public understanding of climate change and trust in different countries, cultures, and social groups. However there are some common tendencies across these groupings. Traditionally science has been viewed by the public as the most trustworthy and the least partial source of information. The public usually receive scientific information indirectly, not through peer reviewed papers, but through the media. The media in general is a more diverse and popular, but less trustworthy source of information for the public. According to the Carbon Brief poll (2010), one of the most trusted media sources, the BBC, was considered trustworthy by only 31% of respondents and was considered untrustworthy by 25%. At the same time the media is a chief information source for driving rising public concern. There is a clear correlation between media coverage and public concern about climate change issues.

2.3. Overall the media involvement in the climate change debate has been inconsistent and controversial. Along with excellent reporting and efficient presentation of the climate change message there are many biased and ill informed campaigns in the media. Many common public misunderstandings about climate change can be attributed to the media. The media tends to be very selective in covering global climate change issues; it consistently exaggerates the uncertainty of science behind them, suggesting that it is “statistical fuzzy” (Dispensa & Brulle, 2003). Other problems with reporting climate change science include oversimplification and misuse of scientific language. Probably the biggest problem in media reporting is the mainstream media’s strong link with political agendas. The increase in use of social media and online non-mainstream media sources, such as YouTube, creates an opportunity to provide accessible unbiased information; and a challenge in ‘controlling’ the information and associated spin-off discussions.

Public trust in science

- 2.4. In comparison to other voices (such as from industry, government or climate activists) British people's trust in climate messages from scientists is significant. A number of surveys have shown that information attributed to a scientific source is trusted more than the same information attributed to government, industry or climate activist groups.
- 2.5. However, research shows that public interpretation of scientific information is greatly affected by societal values, personal experience, and other contextual issues – and hence can vary significantly across different social groupings. People tend to be selective in noticing and accepting the evidence depending on how well the evidence can be integrated with their worldview and lifestyle.

Experts vs. public understanding of uncertainty and risk.

- 2.6. There is a discrepancy in understanding and using risk and uncertainty concepts in the scientific community and by lay people. There is very little uncertainty about human activity influencing the global climate among climatologists (according to Doran and Zimmerman, 2009, 97% agree). Nevertheless there is a large number of more specific scientific uncertainties, e.g. predicting the exact impact of climate change on a particular area or the effect of policy measures. There are also uncertainties related to the social or political consequences of climate change reflecting differences in personal values and political ideologies. Some of the inevitable debates and uncertainties expressed by experts and scientists are often misinterpreted by the public as a lack of certainty in anthropogenic climate change and therefore become a reason for scepticism by the public in climate change.

3. How could public understanding of what is meant by climate change be improved? What are the main barriers to this? Does the media have a positive role to play?

The role of public engagement on climate change.

- 3.1. Climate change is an especially challenging issue because it is fundamentally linked to energy consumption, implying a need for a radical change in values, behaviour and institutions to address the issue (Lorenzoni, et al., 2007). This cannot be achieved without public engagement in climate change issues. Public and stakeholder engagement is important not only as a part of public participation in decision- and policy making in a democratic society, it is also crucial for achieving targets (e.g. CO₂ reduction, energy-saving, etc.).
- 3.2. Public engagement can be defined as an individual state of connection and involvement in climate change with cognitive, affective and behavioural elements. These elements are not always fully reconciled with each other. In other words, climate change concern at a cognitive level might not trigger behaviour change; and more pro-environmental behaviour might be caused by economic incentives. Public engagement on all three levels is important.
- 3.3. The cognitive element or public understanding of climate change can be interpreted as awareness and knowledge of climate change issues. Understanding is important for any attitudinal and behavioural change in society; however the link between public understanding, perception of policy measures and behavioural change is not straightforward. Many preferences and behavioural changes are related to concerns other than climate change (e.g. economic and social interest, convenience, fashion, etc.). The discrepancy between awareness and interest in climate change issues with lifestyle and behavioural choices has also been noted by many researchers. Some social scientists think that scientific evidence about climate change related risks is actively 'filtered' in peoples' minds. So that the public tend to

accept only the evidence they find consistent with deeply held cultural values and reject evidence that challenges those values.

- 3.4. An affective element in public engagement can provide a personal connection with climate change issues and motivate behavioural change. Effective communication of 'the' climate change message should also aim to engage on an affective level. This implies identifying different audiences and recognition of different methods of engaging them to represent and frame the climate change science and policy issues in a way which has a personal and emotional relevance.

Framing effect

- 3.5. Seemingly small changes in presentation of information can significantly affect subsequent beliefs, attitudes and behaviour. This framing effect plays a vital role in communicating climate change science and policy messages. Thus framing can address one of the common barriers in climate change communication, the psychological distance effect. Analysis of public perception has indicated that climate change is perceived as distant on a number of different dimensions. People who reported overall concern about climate change issues often do not believe that climate change will effect them directly and personally. In support of this, research evidence suggest that people are more willing to engage when climate change issues are framed in terms of vulnerabilities on a local level. Connecting individuals and communities to potential direct personal impact gains traction when engaging the public in climate change issues across the full cognitive, affective and behavioural 'divides' of engagement.

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