Promoting Lower-Carbon Lifestyles

The role of personal values, climate change communications and carbon allowances in processes of change
Rachel Howell, The University of Edinburgh

Climate change is a pressing problem
and substantial reductions in the greenhouse gas emissions that cause it are necessary to avert the worst impacts predicted. The UK has targeted an 80% reduction from 1990 emissions levels by 2050.

My research is about how to promote behavioural changes to reduce emissions
associated with individuals' lifestyles, which are a significant proportion of the UK total. My PhD links several different projects. The first assessed the impacts of the climate change film *The Age of Stupid* on viewers' attitudes and behaviour. I then used a model of behavioural change from health psychology to analyse the processes of change employed or depicted by four different climate change films, in order to identify more generally the strengths and limitations of films as means to promote mitigation action. Next I considered the issue from the opposite angle, looking at what has motivated individuals who have already adopted lower-carbon lifestyles. The final project investigated the opinions of members of Carbon Rationing Action Groups, seeking to understand what can be learned from their experiences of living with a carbon allowance, and the implications that the findings may have for potential government policies, especially personal carbon trading.

I used a variety of research methods
Including quantitative surveys and qualitative interviews. The research is interdisciplinary, and as attitudes and behaviour are not static, it takes a dynamic approach, investigating how and why changes happen over time. I also aimed to consider whole lifestyles rather than single behaviours, because people who adopt lower-carbon behaviours in one area, or under certain circumstances, do not necessarily then do so more generally. In general the focus was on practices that make a significant contribution to mitigating climate change, rather than those (such as recycling) that have only limited emissions-reducing potential.

Impacts of *The Age of Stupid* were tested
– using a four-stage panel survey – because it is essentially a fear appeal, and it was unclear whether that type of communication would be motivating or would instead contribute to feelings of disempowerment and despair. There's also a need for more research that looks at the effects of climate change communications on behaviour and not just attitudes.

The film increased viewers' concern, motivation to act, and belief in their ability to "do something about climate change" immediately after seeing it, but these effects had worn off by the time of the first follow-up 10–14 weeks later. It also appeared to have inspired some action to combat climate change. However, respondents were most likely to report that they were engaged in easier behaviours for reasons other than the influence of the film, and that they had not taken up more difficult/costly behaviours after seeing it.

The 'doom and gloom' tone didn't seem to have a negative impact; in fact participants who were most likely to accept the possibility of worldwide devastation due to climate change by 2055, as depicted in the film, had higher scores for post-viewing action. However, the audience was atypical of the general public in terms of their pre-film levels of concern, knowledge about how to reduce their carbon footprints, and involvement in groups campaigning about climate change. If this is generally true of climate change films, they may have little influence beyond a minority of he population, arguably those who least need persuading of the importance of the issue and the need to take action (see **Paper 1**; details given on p.3 of this summary).

A second follow-up 15 months after *The Age of Stupid* was first shown revealed that behavioural intentions do not necessarily translate into action. Actual behavioural changes attributed to the influence of the film might have persisted, and there were possibly some 'late-starters' belatedly taking film-inspired action that was not picked up on at the time of the first follow-up (demonstrating why longer-term research is necessary), but the key finding was that participants' attributions of their actions to the influence of the film were not reliable. Better methods for evaluating the long-term impacts of climate change communications (and other interventions) are needed, and these will likely require significant resources to recruit members of the general public for longitudinal studies that do not have to rely (solely) on self-reports of behaviour and attributions of action (**Paper 2**).

Change is a process, not a single event and the transtheoretical model of behaviour change is one model of this process. I demonstrate how the model could be used to assess whether the processes of change used or depicted in climate change films match the stages of change (shown in Figure 1, below) that target audiences are expected/likely to have reached.
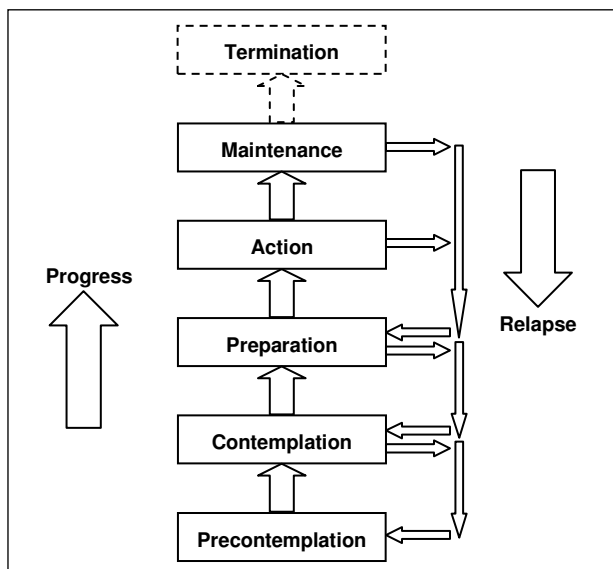

Figure 1: Stages of Change in the transtheoretical model

My own and others' analyses of the impacts of four exemplar films are used to discuss as far as possible whether there is any evidence for effects that the model suggests might occur. The primary conclusion of this project is that apart from boosting the morale and reinforcing the activities of those already engaged in climate change mitigation action, films are most likely to be useful to foster contemplation of behavioural changes, or to encourage contemplators to move on to the preparation stage. Therefore it's necessary to find ways for films to reach audiences who are at early stages of change with regard to lower-carbon behaviours (see **Paper 3**).

Interviews with people who have adopted lower-carbon lifestyles show that most of them were not motivated primarily by concerns about 'the environment' *per se*; their actions often stemmed from concerns about the impacts of climate change on people in developing countries. Social justice, community, frugality, and personal integrity were important themes. On a values questionnaire, most interviewees scored altruistic values higher than biospheric values, although the latter were also important to them. Although many participants gave a list of actions to take and items to have or avoid having when asked to say what 'a low-carbon lifestyle' suggests to them, some offered much broader and less tangible visions, and some expressed a lack of interest in discussing 'climate change'.

These findings imply that it's not necessary to foster biospheric values in order to stimulate lower-carbon lifestyles; policymakers and campaigners could look to tapping into other concerns and values, especially social justice. There is also value in promoting the development of holistic visions of what a lower-carbon future could entail, going beyond simple 'ten steps to save the planet' type messages (**Paper 4**).

Carbon Rationing Action Groups (CRAGs) set voluntary annual carbon allowances for members. A key conclusion from interviews with CRAGgers is that when people are motivated, they *can* significantly reduce their carbon footprints. Being part of a group was helpful to interviewees for many reasons, especially moral support, to increase their sense that they could 'make a difference', and for information sharing. Improved carbon literacy was an important outcome of involvement in a CRAG. Carbon footprint statements help individuals to understand the relative impacts of different aspects of their lifestyle; it would be worth exploring ways to make the emissions associated with different activities visible to the public. The work provided some insights into potential considerations for a national system of personal carbon allowances (generally referred to as PCT), but there are limitations regarding what it is possible to learn from CRAGs about PCT, especially because very few CRAGs actually operate any kind of trading system, and those involved are highly motivated (**Paper 5**).

Overall conclusions

This research largely involved people already committed to climate change mitigation action, though to differing degrees. There is a need to engage more of the population if the demanding targets for UK emissions are to be met. Data from the interviews reported in Paper 4 suggest some ways forward for policymakers and climate change campaigners in that respect, seeking to make common cause with organisations that are concerned about social justice and human rights, and that promote altruistic values, but have historically not been very involved in what are seen as 'environmental' issues. It might also be possible to attract more people by emphasising other benefits associated with lower-carbon lifestyles, such as quieter roads and stronger communities, though there are dangers in stressing financial benefits. However, it is unclear what proportion of the population might be moved by such appeals since values inimical to altruism as well as to environmental concerns are a strong feature of our culture, and even committed people face barriers to action because of costs, social norms, family pressures, inconvenience and other obstacles, as shown in Papers 1 and 5.

The finding that the film *The Age of Stupid* attracted an audience that was generally already taking some action to mitigate climate change, and the conclusion of Paper 3 that films may be most useful for viewers at earlier stages of change, suggests a need to recruit different audiences to see climate change films. Incorporating films into, and/or designing them for use as part of, the school curriculum is perhaps the main possibility, although the range of behaviours over which children have some control is considerably smaller than that for adults. The role of films in reinforcing lower-carbon behaviour among 'the converted' should also not be overlooked. However, the limitations of films in promoting actual behavioural changes mean that it seems likely that the primary role for films and other climate change communications in promoting lower-carbon lifestyles will be to encourage and reinforce enough demonstrable public concern to persuade politicians to take more radical political action.

The scale of action required, the difficulties individuals face when considering whether and how to adopt lower-carbon behaviours, and the limited impact of initiatives such as CRAGs and *The Age of Stupid* beyond a relatively small circle of well-educated people who tend to exhibit particular personality traits (such as a preference for frugality), lead me to conclude that significant UK emissions reductions will necessitate far-reaching legislation that will impact on everyday practices and behaviour.

Rachel Howell

Papers about this research

Paper 1 Howell, R.A., 2011. Lights, camera… action? Altered attitudes and behaviour in response to the climate change film *The Age of Stupid*. Global Environmental Change 21, 177–187.

Paper 2 Howell, R.A., 2012. Investigating the Long-Term Impacts of Climate Change Communications on Individuals' Attitudes and Behavior. Environment and Behavior, doi: 10.1177/0013916512452428.

Paper 3 Howell, R.A. How might climate change films encourage individual behavioural change? An analysis using the transtheoretical model. To be published in a special issue of the International Journal of Sustainable Development on 'Sustainability Tales, Fictions and Other Stories from the Movie Industry'.

Paper 4 Howell, R.A., 2013. It's *not* (just) "the environment, stupid!" Values, motivations, and routes to engagement of people adopting lower-carbon lifestyles. Global Environmental Change, 23, 281–290.

Paper 5 Howell, R.A., 2012. Living with a carbon allowance: the experiences of Carbon Rationing Action Groups and implications for policy. Energy Policy 41, 250–258.

Please contact me if you would like more information about any aspect of this research, or to request copies of any of the associated papers, or a pdf of the complete thesis. Email: rah22@aber.ac.uk