It's not (just) "the environment, stupid!" Values, motivations, and routes to engagement of people adopting lower-carbon lifestyles

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Citation for this article:
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(1):281-290.

Abstract
This exploratory mixed-methods study uses in-depth interviews to investigate the values, motivations, and routes to engagement of UK citizens who have adopted lower-carbon lifestyles. Social justice, community, frugality, and personal integrity were common themes that emerged from the transcripts. Concern about 'the environment' *per se* is not the primary motivation for most interviewees' action. Typically, they are more concerned about the plight of poorer people who will suffer from climate change. Although biospheric values are important to the participants, they tended to score altruistic values significantly higher on a survey instrument. Thus, it may not be necessary to promote biospheric values to encourage lower-carbon lifestyles. Participants' narratives of how they became engaged with climate action reveal links to human rights issues and groups as much as environmental organisations and positive experiences in nature. Some interviewees offered very broad (positive) visions of what 'a low-carbon lifestyle' means to them. This, and the fact that 'climate change' is not necessarily seen as interesting even by these highly engaged people, reveals a need for climate change mitigation campaigns to promote a holistic view of a lower-carbon future, rather than simply offering a 'to do' list to 'combat climate change'.

Keywords
Lower-carbon lifestyles; values; motivations; environmentally responsible behavior; climate change mitigation; pro-environmental behavior

Acknowledgements
I am grateful to Gesche Huebner for suggesting the use of the values questionnaire and providing me with a copy, and to Dave Reay, Pete Higgins, Charles Warren, and Simon Allen who supervised this study and commented on the first draft of this paper. Thanks also to two anonymous reviewers for their helpful advice. This research was supported by a studentship from the Scottish Alliance for Geosciences, Environment and Society (SAGES).

1. Introduction

"[I]t is important to understand not only attitudes toward the environment, but also the motives and values that form the basis for those attitudes. Examining both attitudes and associated motives can lead to a better understanding of environmentally related behaviors and new ideas about ways to encourage conservation." (Thompson and Barton, 1994, p.156)

Encouraging conservation in the huge range of individual and household-level behaviours that contribute to climate change has become an important policy goal: behavioural change with regard to home energy use, travel, and the consumption of goods and services is a significant part of the government's climate change mitigation strategy (HM Government, 2006). This paper investigates the values and motivations, and the (generally related) routes to engagement, of people who have adopted lower-carbon lifestyles, in order to determine whether these offer new ideas about how to promote such change. It includes an examination of the images and discourses such people associate with 'climate change' and 'a low-carbon lifestyle', so as to understand what concepts associated with these terms are motivational (or not).

Adopting 'a lower-carbon lifestyle' is understood here to mean making changes to one's lifestyle in order to reduce one's carbon footprint (i.e. the amount of greenhouse gases emitted by the activities comprising that lifestyle). Thus it does not necessarily mean 'having a below-average carbon footprint' (although that would be true of many of those involved in this study); 'lower-carbon' refers to individuals having a lower carbon footprint now relative to some time previously, through intentionally adopting new technologies and/or changing their behaviour.

In this paper I refer to 'environmentally responsible behaviour' (ERB), rather than using the more common term 'pro-environmental behaviour', because I shall argue that behaviours undertaken to mitigate climate change are not necessarily motivated solely or primarily by concern for 'the environment' *per se*, and thus the term 'pro-environmental' could be misleading. Although the phrase 'environmentally responsible behaviour' may share some of the connotations of 'behaviour undertaken for specifically ecocentric motives' (i.e. because of a concern about the natural world for its own sake), it perhaps does so to a lesser extent. The term is used here to refer to behaviour that seeks to reduce the negative impact of one's actions on the natural or built environment, whether or not this is done for ecocentric reasons.

After a review of relevant literature, section 2 details the methods and participants involved in this study. Qualitative findings relating to participants' values and motives (section 3) and routes to engagement with climate change (section 4) are followed by results of a quantitative values survey (section 5). Section 6 examines interviewees' discourses and images relating to climate change and low-carbon lifestyles, and section 7 offers an overall discussion and conclusions.

1.1 Values and environmentally responsible behaviour

The term 'value' is defined here following Schwartz (1992, p.21) as "a desirable transsituational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity." Values make a significant and strong contribution to the explanation of different environmental beliefs and behavioural intentions (de Groot and Steg, 2008). Value-belief-norm theory (Stern, 2000; Stern et al., 1999) posits that values are the first link in a causal chain influencing worldviews, awareness of negative consequences of

behaviour, and ascription of personal responsibility for those consequences, thus activating personal norms that lead to ERB.

Schwartz's (1992, 1994) influential Value Theory posits that there are ten motivational value types, organised in two bipolar dimensions: Openness to Change *vs* Conservation (in the sense of valuing tradition and conformity), and Self-Enhancement *vs* Self-Transcendence (see Figure 1). The poles of each dimension are opposed to each other; for example, self-enhancement values (achievement, power) are opposed to self-transcendent values (universalism, benevolence). Studies suggest that environmentally responsible attitudes and behaviour are predicted by self-transcendent values (Karp, 1996; Nordlund and Garvill, 2002; Stern and Dietz, 1994), especially those in the 'universalism' category (Schultz and Zelezny, 1999; Thøgersen and Ölander, 2002).

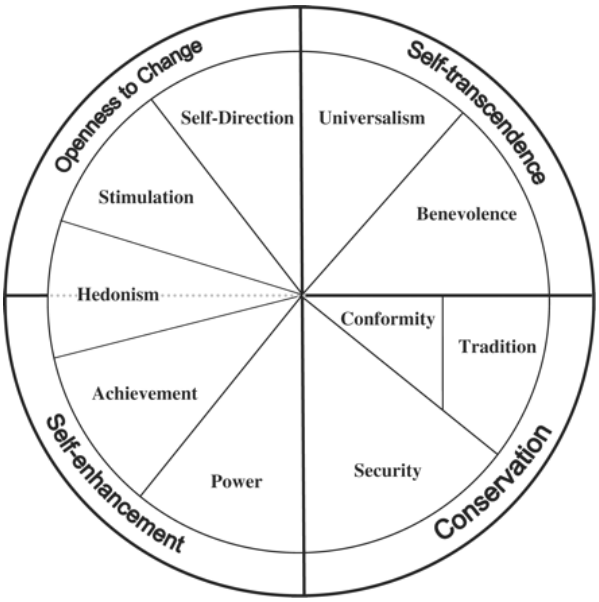

Figure 1: Schwartz Values Circumplex
Source: Davidov et al., 2008. Values and Support for Immigration: A Cross-Country Comparison, European Sociological Review 5, 583-599. By permission of Oxford University Press.

Schwartz's 'universalism' value type includes both 'altruistic' (e.g. social justice, equality) and 'biospheric' (protecting the environment, unity with nature) items. In the 1970s, debate began over whether ERB is motivated more by a 'land ethic' (associated with biospheric values), or 'the golden rule' (altruistic values) (Dunlap and Van Liere, 1977a, b; Heberlein, 1972, 1977). Since the early 1990s, research has sought to identify whether these values can be empirically distinguished (Schultz, 2000; Stern, 2000). Karp (1996) found a biospheric value factor, which correlated with ERB, but Stern et al. (1995) and Stern et al. (1998) found no evidence for distinct altruistic and biospheric value orientations. More recently, de Groot and Steg (2007, 2008) have developed a survey instrument that distinguishes egoistic, altruistic, and biospheric values. They found that both altruistic and especially biospheric values positively correlate with preference for a car that scores high on environmental aspects, while people with a biospheric value orientation express a preference for donating to environmental over humanitarian organisations and those with an altruistic value orientation express the opposite preference (de Groot and Steg, 2010).

Holding certain values does not necessarily lead to ERB; there is frequently a mismatch between the attitudes and values that people affirm, and their actual behaviour (Anable et al., 2006; Blake, 1999). This 'value-action gap' arises because many factors other than values

influence behaviour, and these may constitute psychological or situational constraints on action (Gifford, 2011; Lorenzoni et al., 2007; Tanner, 1999). Everyday behaviours are often routine and habitual, making them difficult to change (Bamberg and Schmidt, 2003; Hobson, 2003; Oeuellette and Wood, 1998). But although it cannot be assumed that promoting particular values will lead to lower-carbon lifestyles, it is worth understanding the values of those who have adopted such lifestyles, as they might suggest necessary, though not sufficient, prerequisites for (voluntary) action, and conversely, could reveal that certain values are not essential antecedents of ERB.

1.2 Motives for environmentally responsible behaviour

When people consider particular choices, the various values that they hold can conflict, and certain values may lack salience. Therefore it is also important to consider individuals' motives for adopting ERBs. These may be multiple and complex (Moisander, 2007). There has been less research in this area than on values relating to ERB.

A motive is similar to a value in that it is a reason for action, or the goal of action, and motives and values can certainly overlap. 'Protecting the environment', for example, can be both a motive for action and the value that inspires action. The distinction between motives and values being made here is that, although at least something about a person's values may be inferred from the reasons (motives) they give for their behaviour, particularly if these are consistent across behavioural domains, the values that (they state) are most important to them are not necessarily the motives for a particular course of action. Thus we cannot assume that we understand a person's motives for specific behaviours or even general categories of behaviour (such as 'reducing consumption') by asking only about their values.

Adopting a lower-carbon lifestyle may be an example of ecological citizenship, which emphasises global, non-reciprocal responsibilities towards others as the main reason to minimise one's ecological impact (Jagers, 2009). Participants in a study of perceptions of and responses to climate change by Wolf and colleagues (Wolf, 2011; Wolf et al., 2009) shared a belief that acting to mitigate climate change is part of being a 'responsible citizen', and expressed compassion for those affected by climate change impacts. Interviewees thought they were using more than their fair share of global resources, and felt guilty about contributing to the problem. They believed that people in developing countries suffer disproportionately due to climate change; "[t]his perceived inequity in part induced the feeling of individuals' civic responsibility in the absence of political leadership on the issue" (Wolf, 2011, p. 126).

Ecocentric views also motivate ERB: studying reasons for participation in a 'green electricity' tariff, Clark et al. (2003) found that, of the motives they asked about, an ecocentric one came out top, and an altruistic one second. However, motivations for ERB extend beyond altruistic and environmental concerns. Whitmarsh (2009) shows that some energy-saving behaviours are carried out to save money rather than to mitigate climate change, while Fujii (2006) found that, in Japan, intentions to reduce gas and electricity consumption were motivated by attitudes towards frugality (in his study, a desire to avoid wastage) rather than environmental views. Shaw and Newholm (2002), who interviewed 'voluntary simplifiers' (i.e. people who had actually reduced their consumption levels), distinguish between 'downshifters', who may be motivated by the desire for a less frenetic lifestyle rather than altruistic reasons, and 'ethical simplifiers' who exhibited wider concerns.

Some authors (e.g. De Young, 2000) maintain that we should seek to promote ERB through intrinsic (internal) motivations like pleasure or satisfaction derived from action, rather than extrinsic (external) motivations such as rewards, because intrinsic motivation leads to more energetic and persistent engagement than when action is undertaken for extrinsic

motives (Crompton, 2008). Brown and Kasser (2005) show that individuals who are oriented towards intrinsic motivations engage in more ERB than others, and Chawla (1999) found that when environmentalists were asked why they were committed to their work, it was intrinsic motivations they mentioned: a sense of integrity in living up to their values, or of competence in meeting challenges/working effectively with others. Maiteny (2002, p.305) discovered that interviewees' experiences of engaging in ERB "enhance the personal meaning of these individuals' lives, and, consequently, contribute to their sense of well-being "; Wolf (2011) also found that some of her interviewees gained considerable intrinsic satisfaction from taking action in response to climate change.

1.3 Routes into environmentally responsible behaviour

The main work on routes into engagement with ERB has been the study of significant life experiences leading to the development of 'environmental sensitivity', initiated by Tanner (1980). He conducted an open-ended survey among staff of US conservation organisations and found that experiences in 'natural areas' was the primary category of formative influences that led them to choose a career in conservation. Later studies (Chawla, 1998, 1999; Corcoran, 1999; Palmer et al., 1999; Sward, 1999) have all confirmed the importance of early experiences of 'nature' or the outdoors in the formation of environmental educators and other professionals. In addition, Chawla (1999) found that concern about social justice is a distinct path into environmentalism. Hards (2012), studying individuals who self-identify as "doing something to tackle climate change", discusses the importance of a variety of transformative moments in her interviewees' narratives (e.g. having his child hospitalised triggered one participant's awareness of, and empathy for, suffering due to global problems). She also found that her interviewees often moved from valuing frugality to developing a concern about climate change (Hards, 2011).

1.4 Gaps in the literature and aims of this study

Apart from the study by Hards (2011, 2012), there is little literature on the paths by which individuals (especially those who are not environmental professionals) get involved in climate change mitigation action. As Seyfang (2006) states, more research is needed to understand the development of ecological citizenship. Although there is a theory of ecological citizenship (see Dobson, 2003), there have been few empirical studies of the phenomenon in practice in the context of climate change (Wolf et al., 2009).

Most of the much more extensive literature on values and attitudes related to ERB is based on quantitative studies. These may not include all the values and motivations that are relevant to respondents. For example, Bamberg and Möser (2007) found that very few studies address the influence of 'moral norms', and questions about religious/spiritual motives are not generally included in surveys about ERB despite concern about climate change expressed by religious groups and in religious discourses (Middlemiss, 2010; Wardekker et al., 2009), churches advocating a Lenten 'carbon fast' (Vaughan, 2009), and evidence of some correlation between Christian beliefs/churchgoing and *socially* responsible behaviour (Pepper et al., 2011). It may be that religious or personal moral norms are too complex, and too difficult to articulate, to make them easily amenable to exploration using the (often closed-question) survey format; arguably this is an example of aspects of values, meanings, and experiences that are best investigated qualitatively. In addition, quantitative data must usually be treated as factual in order to conduct statistical analyses and draw conclusions. Qualitative methods, however, are better at accessing what action *means* to interviewees, and what interpretations they give to events, which reveals information about values and motivation

whether or not their accounts are entirely factually correct, so the historical accuracy of the data is less important (White et al., 2010).

The aim of this study, therefore, was to understand how participants became engaged in lower-carbon lifestyles, and the full range of values, visions, and motivations that inspire their action, through examining what their discourses and stories show is important to them.

2. Methods and participants

This paper draws mainly on detailed interviews conducted in the UK between March and June 2011 with 16 individuals who self-identified as deliberately trying to live a lower-carbon lifestyle because of concern about climate change. Interviewees were recruited through two Carbon Rationing Action Groups (CRAGs); Cambridge Carbon Footprint, an organisation that runs 'Carbon Conversations' courses; and contacts gained from earlier research among viewers of a climate change film. The sample size was deliberately small, as is common with narrative enquiry (Chase, 2005); the aim was not to produce generalisable results but to explore participants' views and experiences in much greater depth than can be achieved through quantitative methods. I carried out purposive sampling to ensure that a diverse range of participants was included in terms of factors that might affect concern/action, such as gender, age, ethnicity/country of origin, household composition and home ownership (see Table 1). They were all university-educated, which broadly reflects the composition of the UK climate action movement; concern about environmental issues is frequently correlated with higher levels of education (Diamantopoulos et al., 2003), and in the UK a far greater proportion of members of environmental organisations hold a degree than non-members (Ray et al., 2003). Participants lived in Scotland or England in three different major cities, two smaller university cities, a town, and a village near one of the cities. Each was offered £20 for their time.

The interviews were conducted face-to-face in a place to suit the interviewee; they were semi-structured, taking in part a narrative approach (Hards, 2012) with open questions inviting participants to tell the stories of how their concern about climate change, and whichever one or two of their emissions-reducing actions they wished to focus on in the interview, had developed. This method was appropriate because it is a holistic, contextual approach that understands ERB as dynamic, and allows interviewees to relate what *they* see as important in the development of their attitudes and behaviour. Later questions were more specific, probing issues such as interviewees' beliefs about the effects of their action, and their involvement in climate action/campaigning groups. Participants were also asked what images came to mind when I said "climate change" and then "a low-carbon lifestyle", and what their feelings about these images were. After covering the main topics, I changed the style of the interview from one in which I had said relatively little, to make it more of a conversation: offering more information about my own position and the kinds of questions I aimed to explore through the research, and feeding back to each interviewee some reflections on what they had said, inviting their comments. This was in part a response to pilot interviews I conducted, during which I found that conversations afterwards about what had been discussed clarified or revealed further information; in part to check whether my interpretation of some of what had been said was accepted by the interviewee. At the end of each interview, participants were asked if anything we had covered stood out as particularly important to them; this is useful for analysis because it helps to distinguish what is important from what has been frequently mentioned, which may not be the same thing (Krueger, 1998; Morgan, 1997). These were in-depth conversations; the average interview length was an hour and 41 minutes.

Table 1: Characteristics of interviewees

	No. of interviewees
Gender	
Female	9
Male	7
Age	
18–34	4
35–54	7
55+	5
Ethnicity	
White British	12
White other	2
English/Chinese	1
Indian	1
Home ownership	
Owner-occupiers	12
Renting	4
Household composition	
Sole occupant	5
Couple living without children	3
Family including children at home	5
Sharing with unrelated (adult) others	3

The interviews were recorded, transcribed, and coded using NVivo software. Some simple descriptive coding themes were pre-determined from the interview questions (e.g. codes identifying 'feelings', 'images' or 'action'), but most codes were developed through an inductive process of reading and re-reading the transcripts, identifying recurring words and themes within and between interviews, and grouping the codes thus generated into collections of similar content, identifying concepts such as 'values'. This is a technique borrowed from grounded theory (Glaser and Strauss, 1967), which allows hypotheses about, and answers to, questions such as "what motivates people who have adopted lower-carbon lifestyles?" to be formulated from the data, rather than beginning with hypotheses to be tested.

Quantitative data were also collected. Interviewees who had calculated their carbon footprint were asked to provide this information; six did not have any data, and as the focus of the research was on stories of change rather than on quantifying interviewees' emissions or emissions reductions, they were not asked to complete a carbon footprint calculation.

Four months after all the interviews were completed I emailed participants a simple online survey designed to assess their egoistic, altruistic, and biospheric value orientations, in order to test the hypothesis, developed during interview data analysis, that interviewees would score altruistic values more highly than biospheric values (and both more highly than egoistic values). The survey instrument was designed by de Groot and Steg (2007, 2008) based on Schwartz's Value Theory (1992, 1994), to measure value orientations related to environmental behaviour. The survey instrument consists of five egoistic values, four altruistic values, and four biospheric values (see Table 2). Participants were asked to rate the

importance of each value "as a guiding principle in your life" on a 9-point scale from –1 (*opposed to my values*), 0 (*not important*), 3 (important), to 7 (*of supreme importance*). Following de Groot and Steg (2007, 2008), they were encouraged to score not more than two values at 7 and to distinguish as much as possible between values by varying scores.

3. Interviewees' values and motives relating to climate change mitigation

In the presentation that follows of significant themes that emerged from the interviews, all names given are pseudonyms. I discuss here both the implicit and explicit motivations for action that emerged from interviewees' accounts, and the values that are implied by their discourses and concerns (later tested explicitly using a questionnaire; see section 5). I do not attempt in this section to make a sharp distinction between values and motives (since they can overlap); the approach was to consider what reasons interviewees gave for action, and how they framed and expressed their stories, inferring from these data what participants value (discussed in the conversational, feedback part of most interviews).

3.1 Social justice: "Is it possible for us to live in a fair way?" (Sally)

One of the themes that emerged most frequently (coded in 14 transcripts) was labelled 'social justice'. This incorporates several related aspects, including concern about poorer others, and concepts of (un)fairness, human rights, 'needs', and societal well-being.

Concern about the negative impacts of climate change on poor people (in developing countries) was widespread among interviewees. For many, climate change is an issue of justice because those who will (and do) suffer most "had no part in creating the problem" (Ben); instead responsibility lies with 'us': "We are *stealing* from the poor, and we are *killing* them with our indulgence!" (Em). This view creates a sense that "it is *deeply* unfair that parts of the world are going to *suffer* because of our *needless* consumption and unthinkingness" (Claire). This unfairness is not necessarily only rooted in heedless or selfish behaviour, however. Sally argued that "Even if you or I live as low-carbon as we can, we're still using a massive proportion of the world's resources compared to people in many other countries, and is it possible for us to live in a fair way?" Implicit in these discourses is the idea of a 'fair share' of resources and greenhouse gas emissions, made explicit by Em: "At one point I had this potential plan to get my personal emissions down to about the world average […] then I wouldn't be taking *too* much more than my share."

Thus interviewees' concern and action was often motivated by concerns about people, more than (or as well as) 'the environment', or 'nature'. Aileen makes this explicit: "I think sometimes people don't make that connection to do with poverty. They think of it just more about the environment per se rather than the actual impact on people." This is not to say that environmental concerns did not play a part; four interviewees mentioned distress about species loss and they and others expressed concern at potential damage to landscapes and about humans' perceived lack of connection to the natural world. For some, though, this had developed later than, or as a result of, their concern for people, and although interviewees tended to see 'humans' and 'the environment' as fundamentally interconnected, most (though not all) agreed that it was the potential for human suffering that was the strongest driver for their action to mitigate climate change. If climate change were somehow only to impact non-human nature, without any adverse consequences for humans, several interviewees said that it would be unlikely to be such a concern for them.

3.2 Community: "I think this has to do with being linked into the community" (Ian)

Another people-related theme that emerged from the data, although from far fewer transcripts than the social justice theme, was 'community'. This theme is about a sense of connection to others, and a feeling of responsibility or desire to be helpful, that both grows from that sense of connection, and strengthens it. It thus shares some features of the social justice theme (e.g. responsibility to others), but differs from it in emphasising action because of the feeling of connection to others – especially at a *local* scale, as well as globally – rather than because of notions of justice.

When asked about the reasons for reducing her carbon footprint, Prue included "a feeling of being part of the community" of her village, and later spoke of being "one tiny part of a large world community doing your bit." Luke's response to the same question was: "I see myself as an active participant in the community, and I see trying to live a lower-carbon lifestyle as something that is helpful to the community as a whole." As part of his story of taking action, Ethan explained, "I feel I'm *everyone's* keeper and everyone else is mine and we're all on this boat together."

A sense of community was also seen by some as a positive outcome of action: for example, Ethan said, "you gain something emotionally by doing what you believe in and […] feeling connected", while Deepta included community living as a positive image associated with 'a low-carbon lifestyle' for her. She also regarded community as a very important part of finding solutions, because "if you're in an environment where there's a bunch of people and you're bouncing ideas off each other that's where you get the creativity, that's where you get the brilliant new idea. You don't get that sat on your own in a room." Paul mentioned the sense of community built among people involved in Carbon Conversations groups; he regarded the opportunity for people to talk one-to-one in these groups, helping to support each other in facing the challenge of climate change, as one of the most important aspects of them.

3.3 Frugality: "There's no desperation for new trainers" (Ethan)

A third theme, which emerged from ten of the interviews, was labelled 'frugality'. This encompasses several elements, including self-perception, behaviours/practices, and beliefs about consumption and happiness. Interviewees characterised themselves as "frugal", "thrifty", "anti-consumerist", "not materialistic", "abstemious", and even "mean". They detailed practices such as buying second-hand clothes and other goods, not buying a lot of 'stuff', and not spending time or money on personal appearance. Although often mentioned as part of a list of actions that make up their lower-carbon lifestyle, interviewees typically explained that frugal practices pre-dated climate change concerns. Luke, for example, said: "I'm conscious in the home of energy usage – only when it needs to be used. Lights, showers, showers instead of baths, using less water – but that seems to be something that I just had drummed into me from an early age anyway." Furthermore, these are practices that feel very comfortable and natural; they are not difficult or experienced as privation. Em explained, "I don't really have that much of a need to buy stuff or an urge to buy stuff. I'm quite happy wandering around in old clothes, so it's very easy for me to be contented with a lifestyle in which I buy second-hand clothes and things", while Ethan connected the "tranquil" atmosphere in his home to the fact that "there's not a lot of pressure to consume".

This positive valuation of frugality, or 'simple living', and rejection of materialism/consumerism had a variety of origins. For some interviewees (of all ages) it was part of their upbringing, whereas Claire stated several times that she was "by nature" a frugal person and did not know where that had come from as it was not how she'd been raised.

Evie's Christian faith is a strong influence on her values; she stated that if everyone followed Jesus "we'd all not really own very much".

A common idea among the participants was that consumerism does not lead to happiness and may indeed be harmful to individuals directly, as well as through creating/compounding environmental problems. Eszther agreed with what she'd read that "easy access to all kinds of consumables might have a detrimental effect on children", while David characterised consumption negatively as "like a drug". He suggested that "We *can* do with a lot less and just get used to it bit by bit *and* be quite content with it." Others had a perhaps more utopian vision: "The only thing we need to do is realise that we live in an age of sufficiency and to embrace it instead of wanting more" (Ethan), while Deepta enthused, "If we stopped buying stuff and didn't feel like we needed lots of useless things, we would just be so much happier. We'd have so much more free time, we'd have family and friends that we would genuinely be close to and lived with properly."

3.4 Personal integrity: "I want to live a moral life" (Em)

A final, overarching theme was coded 'personal integrity'. This links the other three; people will feel a sense of personal integrity when acting in accordance with their values of social justice, community, or frugality. It is included here as a separate theme in order to explicitly draw attention to the importance of personal integrity to the interviewees, because it was clear that they felt a desire/commitment to live "the way it feels right" (Ben) simply because it is right, whether or not this achieves other aims such as social justice or environmental protection. For example, Ian said, "It's just something that I feel is the right thing to do so I don't look at [whether it makes a difference] much greater than that" and Em explained:

> …in some ways individual behaviour is to some extent futile. But I still feel like – I suppose in that way it's similar to my veganism and everything else – that I'm not going to be an active part of this. Even if that doesn't stop it I still feel an obligation to... It's hard to express [Laughs] and I'm not sure if it makes that much sense to other people, but to say, "even if this has no impact on the great scheme of things, in my behaviour I'm not going to be an active participant in this."

This is 'virtue ethics' rather than consequentialism, i.e. being concerned to maintain one's moral character rather than judging the worth or rightness of one's actions by their consequences. Asked why she takes action even when others don't, Aileen replied "I think that's all you can do is try and be faithful to whatever you think's right yourself", while George said "I try and be honest." Doing what is right makes interviewees feel "comfortable" in themselves (Ian, Em); Deepta said that "If I wasn't doing it, then I just wouldn't be happy. I feel so unhappy with the way the world is that I just couldn't possibly not try." This latter statement was echoed by others who felt "I couldn't *not* do it" (Paul) or who characterised their action as something they simply *had* to do whatever others were (not) doing.

4. Routes to engagement with climate change and lower-carbon lifestyles

Interviewees' narratives of change revealed various routes to their lower-carbon lifestyles. Concern about other social justice and human rights issues (which tended to be long-standing) led some interviewees to engagement with climate change. For example, Sally explained that she had realised that "because of climate change all the things we've tried to achieve in […] women's rights in developing countries especially, that would all just fall apart – and was already beginning to fall apart, because of climate change. It was probably actually feminism which brought me into climate change". Deepta stated, "My path to environmentalism was, I was really into human rights." Many of her friends in her university Amnesty International group were also involved in environmental campaigns and this led to Deepta becoming involved too. David related his concern to growing up in South Africa, because "you really

had to have a view about what you thought of race discrimination and so on" and this led to political and social awareness that developed into concerns about many issues, including climate change.

For Ian, the pathway to action was a local anti-road campaign (which he characterised as a local community issue, rather than an environmental one): "that's how I got involved in Friends of the Earth, and I think once you start getting involved in community stuff – and I'm still heavily involved in local community stuff – so I think you become much more […] socially responsible."

When asked whether there was "any kind of spiritual/religious/humanist basis" for their concerns, seven interviewees mentioned the influence of their Christian upbringing, even though they did not necessarily consider themselves 'religious'. Luke, for example, said that going to church as a child "has given me a kind of moral compass", while Ben considered that "just the predisposition of being brought up in a Christian household with the whole considering your own guilt and your own responsibility, or how you're going to deal with your impact, I think that's really huge". In some cases it was clear that there was a dynamic relationship between interviewees' spirituality/religious convictions and their concerns about climate change. Aileen explained that when she first started to reduce her car use "I didn't really think of it in Christian terms at all" but "*now* I would see that as very much part of what it means to be Christian". Em regarded her moral standards, which drive her climate mitigation action, as having come from her upbringing as a Baptist; she had converted to Judaism as an adult and interpreted a Jewish law about avoiding waste according to her carbon footprint minimisation ethics. In a two-way synergy, she viewed Jewish principles as "feed[ing] into my environmentalism", and her understanding of these principles was also shaped by her prior altruistic values.

Similarly, engagement with climate change sometimes entailed developments in interviewees' worldviews. Deepta explained that originally "I very much felt like, 'oh human beings are more important than the environment' whereas now I'd never make that categorisation because I don't really think of them as separate issues."

Interviewees' narratives generally implied stable values underlying, and motives for, their actions, linking different activities that were inspired by similar factors. Prue, for example, compared the enabling role of Carbon Conversations groups to her professional interest in enabling people to manage chronic health conditions for themselves. This in turn had developed when she did voluntary work in Africa and discovered that she was good at facilitating people to bring about changes in their community (which experience also increased her awareness of the vulnerability of poor nations to climate change). However, Paul's values had changed over time. He considered himself as having been "pretty materialistic" in his teens but had realised that it wasn't making him happy and so rejected that lifestyle; he regarded his engagement with climate change as an outcome of a process of searching for greater meaning in life.

5. Results of the values questionnaire

Fifteen of the 16 interviewees completed the values questionnaire (one person could not be contacted by the time the survey was administered). Cronbach's alpha (a measure of the internal consistency, and therefore reliability, of the scores obtained from a survey instrument) for the altruistic and biospheric value scales was good, at .81 and .87 respectively; for the five egoistic value items it was only .41, but removing the item 'ambitious' from the scale increased alpha to .63, and therefore this item was excluded from analysis. Table 2

shows the total and mean score for each value when all 15 responses are combined; the highest ranked value was 'social justice'.

Table 2: Value scores totalled for all respondents (N=15)

Value and definition used in the survey	Rank	Total score (max = 105)	Mean score
Altruistic values			
SOCIAL JUSTICE (correcting injustice, care for the weak)	1	84	5.60
EQUALITY (equal opportunity for all)	2	81	5.40
HELPFUL (working for the welfare of others)	4=	76	5.07
A WORLD AT PEACE (free of war and conflict)	4=	76	5.07
Biospheric values			
PROTECTING THE ENVIRONMENT (preserving nature)	3	79	5.27
RESPECTING THE EARTH (harmony with other species)	6	72	4.80
PREVENTING POLLUTION (protecting natural resources)	7	71	4.73
UNITY WITH NATURE (fitting into nature)	8	57	3.80
Egoistic values[a]			
INFLUENTIAL (having an impact on people and events)	9	47	3.13
WEALTH (material possessions, money)	10	19	1.27
AUTHORITY (the right to lead or command)	11	12	0.80
SOCIAL POWER (control over others, dominance)	12	5	0.33

[a] A fifth egoistic value item, AMBITIOUS (hard-working, aspiring), was originally included, but did not correlate well with the other items in this scale.
Note: Schwartz's Value Survey (1992; 1994), on which this instrument is based, deliberately included some items expressed as nouns and others as adjectives.

Examining each individual's responses revealed that twelve interviewees scored higher on the altruistic values scale than the biospheric values scale; one had equal scores for both. All respondents scored lowest on the egoistic values scale. A repeated measures analysis of variance determined that individuals' scores for the three value orientations differed significantly ($F(2, 24) = 69.809$, $p < 0.0005$). Post hoc pairwise *t*-tests (one-tailed) confirmed the hypotheses that participants rated altruistic values more highly than biospheric values as the 'guiding principles' of their lives ($p = 0.020$), and both altruistic and biospheric values as more important than egoistic values ($p < 0.0005$ in each case). As this is a closed testing procedure (Marcus et al., 1976) there is no need to apply a correction for multiple testing (Bender and Lange, 2001).

6. Discourses and images related to 'climate change' and 'a low-carbon lifestyle'

As might be expected, the images interviewees associated with 'climate change' were generally negative, and, in common with the findings of Lorenzoni et al (2006), tended to focus on impacts rather than causes or solutions. However, a few of the discourses raised surprising points. Ben finds the phrase 'climate change' irritating, because it is overused: "I think it's become a cliché and it's almost its own worst enemy." He said he no longer has conversations about climate change; "it provides the background really to conversations, rather than the immediate subject." Later, despite still being committed to the CRAG he belongs to, he said, "I don't really want to talk about carbon at all these days." However, he does have many conversations about energy, and when asked why people are interested in talking about energy he said he thought it was "related to the debates around peak oil and

whether it's going to hit us or not". So for Ben, who used to have lots of "frantic climate conversations", the debate has moved on; climate change has become "mainstream"; at the same time, he thought that people also avoided talking about it because they feel "I don't really want to go there because it doesn't cheer me up".

Paul, who volunteers as a facilitator of Carbon Conversations, said "I find that even just saying 'climate change' turns people off"; he avoids talking about the problems of climate change and consumerism (as he sees them) in favour of "bring[ing] it to the personal", and giving a positive message about the benefits he's reaped from the action he's taken. He explained "that's not in my nature, is to make people feel uncomfortable about it. So that's why I go on to the other side of it, trying to talk about the solutions without even talking about the problem."

Deepta is heavily involved in an organisation promoting action to mitigate climate change, yet she asserted, "I'm not that interested in [climate change] as a person. As I said, I don't think it's actually that relevant and I think in some ways it can be unhelpful because it becomes this thing which we either believe in or don't, or care about or don't. It fosters that view of, 'it's something that we have to do because we're destroying the planet' [spoken in a gloomy tone], not because we genuinely want something that's better." She takes the view that "You don't even have to believe; you can be a climate change sceptic and you can think that it's all a lie and still think that a low-carbon lifestyle is better."

So what does a low-carbon lifestyle mean to these early adopters? When asked what images the phrase brought to mind, nine interviewees responded (in whole or part) with specific activities, or things to have (such as insulation) – or, more usually, to do without:

> No car. Garden. As few electrical things as possible (Hazel)
>
> You try and do without a car, you rely on public transport. (George)
>
> Less buying. And more planning. (Eszther)

In general, these images were associated with positive feelings, although Ian regarded a low-carbon lifestyle as "limiting", but "only slightly negative" because his friends share his views, while David reluctantly believed that such a lifestyle "has to be sold." However, some interviewees gave answers that were rather less tangible and concrete:

> For me it's more local living, stronger communities, more time for each other […] a less materialistic lifestyle where we don't need to have so much and hopefully meaning that we don't need to work so much and have more free time. (Paul)
>
> Somehow I see sunshine. Yeah, lightness actually. Brightness and a sort of small place to live. Green grass and everything bright. There's something healthy about that. Healthy and wholesome I suppose. (Aileen)
>
> Living really close to nature. I think that is the most dominant one. That's the one that makes me happy and that's the one that makes me inspired. […] I think communities is another one. Connections with nature and community living and all the – I do have to remind myself that it wouldn't solve every single problem and life wouldn't be perfect. [Laughs] (Deepta)

These are not images that would translate into 'carbon reductions per year' or any quantifiable measure; rather, they show that "lower-carbon lifestyles" are associated, at least for some activists, with a much broader vision of 'the good life', and benefits such as health, wholesomeness, and community. This also seems to be true for some of the participants who answered with the more typical list, such as Claire, who regarded the prospect of fewer cars on the streets as "lovely" because people would interact and not have to worry about traffic, and Prue, who repeatedly stressed the satisfaction she gains from cycling ("it's not only that you are not using resources, but you see a neighbour and you stop and say hello in a way you don't when you use the car") and buying local produce ("you are eating healthily, and you're saving money"). Several interviewees referred to their visions as 'idyllic' or similar, and recognised, like Deepta in the quote above, that the reality might not be quite so "perfect", but

these were very attractive images and Aileen did not seem to be the only participant who believes that "it's probably much more possible than we think."

It is possible that interviewees' discourses, images, and motivations for action have been shaped to some extent by common or shared sources. For example, seven of the participants had worked through the Carbon Conversations course book (Randall, 2009), though not together. Three interviewees belonged to the same Carbon Rationing Action group, and two to another, so they knew each other and would have shared conversations; one CRAG member explicitly mentioned another as a 'resource'. Two interviewees talked about having been to Climate Camp. When asked about sources of information that they used, 3–5 interviewees in each case referred to the internet; campaign organisations; newspapers, especially *The Guardian*; and scientific reports, including those of the Intergovernmental Panel on Climate Change. Books were also mentioned, especially *Sustainable Energy Without the Hot Air* (MacKay, 2009).

7. Discussion and conclusions

These findings suggest some clear themes for further research, and potential consideration by policymakers and practitioners who wish to promote lower-carbon lifestyles.

First, it is clear that concern about 'the environment' or 'nature' *per se* is not the primary motivation for most interviewees' action to mitigate climate change. Contrary to some popular perceptions, these 'early-adopters', most of whom are quite radical in the level of action they have taken, are not, in general, 'deep green' environmentalists concerned above all with the welfare of non-human nature. Typically, they are more concerned about the plight of poorer people who will suffer from climate change (cf. Wolf, 2011; Wolf et al., 2009). 'Community' is also a motivating factor, and views on the benefits to humans of a 'low-carbon lifestyle' come across clearly.

These data were triangulated by comparing interview transcript analyses with the results of the values questionnaire administered to participants. These show that, although biospheric values are important to interviewees, and the item 'protecting the environment' received a total score higher than two of the altruistic values ('helpful' and 'a world at peace'), participants tended to score altruistic values significantly higher than biospheric ones. Thus, it may not be necessary to promote biospheric values or an ecocentric worldview, as advocated for example by Thompson and Barton (1994) and de Groot and Steg (2010), to promote lower-carbon lifestyles.

Motivations and values associated specifically with mitigating climate change may differ from those related to other or more general ERB, studied by these researchers, for various reasons. Arguably, climate change impacts more obviously and extensively on humanity, and/or is more clearly inequitable in terms of both causes and outcomes, than some other environmental issues (such as species extinctions or local pollution problems), which attract attention for different reasons. If I had sought to recruit interviewees through traditional environmental campaign groups and conservation organisations I might have found more people living lower-carbon lifestyles with a primarily biospheric value orientation. However, for action that is specifically climate change-related, altruistic values seem just as 'useful', and if they are held more strongly than biospheric values by the general population, climate change communications might do better to frame the issue as one of social justice than environmental protection, highlighting impacts on people – especially poorer and disadvantaged people, such as women, who are disproportionately impacted by climate change (Denton, 2002). Such messages may not promote change, due to the value-action gap (Anable et al., 2006; Blake, 1999), and the need for facilitating conditions and removal of barriers to action (Lorenzoni et al., 2007). Moreover, some people find it easier to relate to

more local impacts (O'Neill and Hulme, 2009), or may have other values that are stronger than altruistic ones. The point is that, although we cannot be confident of their efficacy, altruistically-based appeals may have more effect than ecocentric ones.

Similarly, participants' narratives of how they became engaged in climate action reveal links to human rights issues and groups as much as environmental organisations and positive experiences in nature. It seems that the specific problem of climate change mitigation is attracting people who have different concerns and motivations from the environmental professionals who have most often been surveyed in research on significant life experiences that lead to environmental sensitivity (e.g. Chawla, 1999; Corcoran, 1999; Palmer et al., 1999). This suggests that those who wish to promote lower-carbon lifestyles may find it fruitful to work with human rights and development groups, and with organisations that place emphasis on altruistic values, such as many religious groups. Development charities such as Oxfam and Christian Aid are already campaigning on climate change, but more could be done to make links between the concerns of organisations promoting women's, children's, and refugees' rights/welfare and the potential impacts of climate change on these groups.

The discovery that frugality was an important value for interviewees, and one that pre-dated concerns about climate change, echoes the findings of Hards (2011) and Fujii (2006). The positive valuation of frugality by interviewees was confirmed by the results of the values questionnaire, showing that 'wealth' was not generally considered important by them. These findings suggest that people with a preference for frugality are likely to find it easier and more appealing than others to reduce their carbon footprint (although this study cannot show whether and why there might be such people who are not taking action). Thus a long-term strategy for promoting lower-carbon lifestyles might need to involve promoting the value of frugality, and curtailing activities such as advertising that promote materialistic values (Kasser, 2011). Messages that stress the social justice and community benefits of mitigating climate change might be beneficial because as well as being people-centred, they help to enhance the salience of self-transcendent values such as being responsible and helpful, and reduce the salience of self-enhancing, egoistic values such as wealth and status (Corner and Randall, 2011).

These interviewees held strong intrinsic motives for their lower-carbon lifestyles. The 'personal integrity' theme makes this most explicit, but all the themes discussed reveal that the participants were not generally (and certainly not primarily or solely) acting for external rewards. This echoes the findings of Chawla (1999) that a sense of integrity and of living up to personal values motivated environmentalists to carry on their work when they felt like giving up, as well as comments by participants in the study by Wolf (2011).

Participants generally found that adopting lower-carbon lifestyles was rewarding and offered benefits in addition to the satisfaction of acting on personal values (cf. Osbaldiston and Sheldon, 2003, who distinguish between 'identified' and 'intrinsic' motivations, the former being about endorsing values, the latter involving finding behaviour challenging and enjoyable). These findings are similar to those of Maiteny (2002), and of Brown and Kasser (2005), who found that intrinsic values were associated with subjective well-being as well as ERB. They also support De Young's (2000) suggestion that intrinsic satisfactions that are useful for ERB can be derived from frugal behaviours and from participation in a community, nicely drawing together several themes that emerged from this study.

This point about well-being and satisfaction is further illustrated by the positive visions associated with lower-carbon lifestyles that some interviewees offered. They clearly regard such a future as offering many benefits, both specific and less tangible. Kaplan (2000) argues that appealing to altruism to promote ERB is not motivating because it suggests sacrifice and is joyless, but many of these study participants seem to experience both strong altruistic motivations for action and positive affect from taking action and envisaging further

benefits to be gained from 'a low-carbon lifestyle'. This, and the fact that 'climate change' is not necessarily seen as interesting even by these highly engaged people, reveals a need for climate change campaigns to promote a much broader, more holistic view of the benefits of a lower-carbon future, rather than offering only a 'to do' list to 'combat climate change'. Although people do need information on what they can do, and which actions are most effective in terms of reducing one's carbon footprint (Whitmarsh, 2009), starting from what individuals want, such as quieter, safer streets, might engage some people in taking action more effectively than 'Ten Ways to Save the Planet' messages. This approach has been adopted by the Transition movement, which aims to use positive, empowering rhetoric, and offers multiple reasons to get involved (see Hopkins, 2008).

This research has enabled exploration of the motives, visions, and values of individuals who have adopted lower-carbon lifestyles in greater detail and depth than can be gained from quantitative studies, and offers insights gained from how interviewees present change narratives and talk about related issues, as well as from direct questions. As this was a small-scale, exploratory study, these insights should be investigated further with larger-sample studies. Obviously, these interviewees are not representative of the general population, but if "It's the environment, stupid!" is not a catchphrase that adequately captures the range of motivations of even these committed people, the motivational approach it represents seems to be even less likely to inspire widespread behavioural changes among the general public. Climate change is a 'wicked problem' with complex social, economic, political, and ecological dimensions. This research suggests that it should not be framed merely as an 'environmental' issue by those who hope to engage the public in dealing with it.

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