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Society Matters:
Changing Environmental Attitudes and
Behaviour in Scotland

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Abstract

How prepared are the Scottish public to respond to the major social and economic innovations required by the ambitious Climate Change (Scotland) Act? Secondary analysis of data from the Scottish Environmental Attitudes and Behaviours Survey 2008 is used to appraise levels of awareness and knowledge of climate change, as well as views on personal responsibility, consumption, energy and car use, and willingness to change. Although climate change is a concern shared by the majority, in everyday life it typically remains a back of the mind issue, and there is little evidence of broad practical engagement with the emissions reduction targets. It is argued that social values are critical to public responses to the legislation, but core values of individualism, consumerism and unregulated economic growth are obstacles to the major changes envisaged. Implementing Scotland's Climate Change legislation will require a transformational politics grounded in civil society, which can challenge entrenched divisions, manage distributional conflicts and recognise the concept of the common good.

Society Matters:

Changing Environmental Attitudes and Behaviour in Scotland

"Climate change is one of the most serious threats we face. Urgent action is needed to cut emissions which cause climate change. The Scottish Climate Change Bill will introduce a target to reduce emissions by 80 per cent by 2050, and a statutory framework to support delivery." Rt Hon Alex Salmond MSP, First Minister of Scotland, September 2008

"We have passed an historic, groundbreaking bill that sets an international example that we hope others will follow." Rt Hon Alex Salmond MSP, First Minister of Scotland, June 25, 2009

On June 24, 2009 members of the Scottish Parliament passed unanimously the Climate Change (Scotland) Bill. The Act, which received Royal Assent on 4 August 2009, is an extraordinary statement of intent, and certainly one of the most ambitious pieces of legislation enacted by any Parliament. Its aim is for Scotland to contribute prominently to societally-organised, global attempts to govern, and adapt to, human-induced changes to the Earth's climate. The legislation, and related policies in Scotland, the UK, Europe, and the UN, mark the social construction of the Earth's climate as a system to be deliberately and reflexively managed through coordinated action. The feasibility of the ambition is contested on political, economic and cultural grounds, but planetary climate is nevertheless firmly on the public agenda as a matter for governance.

The rationale for such legislation is grounded in scientific evidence of accelerating global warming, stemming from human-induced increasing concentrations of greenhouse gases in the atmosphere: CO₂ emissions since 2000 are higher than those predicted by the more extreme IPCC 2007 estimates, Arctic sea ice is melting much faster than predicted and sea levels are rising more rapidly (G8+5 Academies Joint Statement, 2009). Advances in climate system modelling highlight major risks, including higher frequency of extreme weather, coastal loss, severe drought, floods, crop failure and major loss of species (see for example the Met Office/UK government interactive map showing predicted damage of a 4degreeC rise in global

average temperature

<http://www.actoncopenhagen.decc.gov.uk/content/en/embeds/flash/4-degrees-large-map-final> accessed 22/10/09). The anticipated impacts have prompted global concern about the viability of societies with an economic infrastructure reliant on energy from fossil fuels (coal, oil and gas), and natural resource consumption beyond the sustainable capacity of the planet (Hulme, 2009; IPCC, 2007; Simms and Smith, 2008).

Attempts to govern climate are however characterised by deep disagreement: about authority and responsibility, accurate measurements of emissions and equivalences between greenhouse gases, the scale of risks, the effectiveness of carbon markets vs carbon taxes, and shares of costs and benefits. Global governance ambitions are coordinated by the United Nations Framework Convention on Climate Change (UNFCCC) and have centred on means for reducing greenhouse gas (GHG) emissions from human activity, with the espoused goal of limiting average increases in temperature to no more than 2C. The Kyoto Protocol, initially agreed in 1997, has been the key device of multilateralism. It treats the nation state as the main actor, adopting a hierarchical model of climate governance (Hulme, 2009), which has attracted both praise and criticism. Member states of the EU have so far proved the most willing to set explicit emissions reduction targets. The Climate Change (Scotland) Act is notable for its ambition, with targets for reducing emissions by 42 per cent (from 1990 levels) by 2020, with an 80 per cent reduction target for 2050. Scottish Ministers are required to set annual targets from 2010 to 2050 and to report regularly to Parliament. The Act includes provisions relating to adaptation, forestry, energy efficiency and waste reduction as well as public engagement.

The envisaged transformation in energy and consumption infrastructures is without precedent: the Stern Review (2006) for example notes that the UK 1990s ‘dash for gas’ in electricity generation resulted in annual greenhouse gas emission reductions of only 1%, and this measure of ‘reduced emissions’ was achieved only by excluding the increased emissions from international shipping and aviation. In addition, although the record shows the UK as having already exceeded its 2012 Kyoto target of a 12.5% reduction relative to 1990, measured CO₂ emissions have in fact increased since 2002, despite the introduction of the UK Climate Change Programme in 2000. Prior

to this period, UK reductions can be attributed to closures in the coal industry, and the off-shoring of emissions from energy-intensive steel and other manufactured goods to countries such as China and India (Helm et al 2007).

This raises questions about the viability of the Climate Change (Scotland) Act and whether Scottish government and society can meet the targets. The Scottish legislation has courageously set a higher interim target (42% reduction relative to 1990 levels) than the UK 34% target. The EU is committed to cut its emissions to 20% below 1990 levels by 2020, increasing this to 30% if an international agreement is reached at the December 2009 UNFCCC Copenhagen conference. UK-wide instruments, such as the Carbon Reduction Commitment and Renewable Heat Incentive, are consequently oriented to at best a 34% target, with the EU Emissions Trading Scheme geared to a reduction of between 20-30%. The UK government has no Scottish ministerial representation at the 2009 Copenhagen negotiations to replace the Kyoto Protocol (<http://news.bbc.co.uk/1/hi/scotland/8276246.stm> accessed 6/10/09), and UK delegates are in turn constrained to support the EU negotiating stance. The Scottish government does not control energy, fuel or vehicle regulation and taxation, or energy efficiency standards for manufactured goods. It does however control building standards and planning regulations, enabling considerable control over energy infrastructure, and it can use public finances to shape economic activity and investment. Nevertheless this means that the Scottish government is working to targets which are not straightforwardly within its competency to deliver, placing significant emphasis on the need for transformation through wide public commitment and action to achieve targets.

So how prepared are the Scottish public to respond to the major social and economic innovations implied by implementing such measures, and does Scottish public opinion differ from the rest of the UK? Do people commonly give high priority to concerns about natural, or environmental, resources, and to what extent do the public regard themselves as knowledgeable about climate change and its implications for societal security and well-being? Is there evidence that people are making changes to habitual patterns of consumption and do they regard themselves as having any responsibility for tackling carbon emissions?

What is Known about Scottish Environmental Attitudes and Behaviours?

These questions are examined through secondary analysis of a subset of the data from the government-sponsored Scottish Environmental Attitudes and Behaviours Survey (SEABS08), accessible from the UK Data Archive. Based on a quota sample of the Scottish adult population (aged 16+), the survey provides systematic, representative evidence about Scottish attitudes and behaviour. Face to face interviews, with 3,054 people, were conducted by Ipsos MORI in respondents' homes between 18 August and 15 November 2008. The findings are reported in detail in Davidson, et al (2009). The focus here is on interpretation of these data in relation to questions about current public awareness, assumptions about responsibility, and the potential for societal change of the kinds implied by the legislation. Some comparisons of attitudes and awareness in Scotland and England are made using summary findings from the 2009 Defra survey¹ of English public attitudes.

How Salient are Environmental Issues - Glass Half Empty or Glass Half Full?

A decade of intensive EU, UK and Scottish government policy-making and information about environment, energy, waste and climate change have not resulted in universal awareness of environmental degradation as a critical cause for concern among the Scottish, or English, public. In SEABS08, when asked about the important issues facing Scotland or the world, 12% of respondents mention environmental issues spontaneously as important for Scotland, and 27% mention them as important for the world. The majority (61%) did not mention the environment at all. This is similar to the 59% of English respondents who do not mention any environmental issues in the 2009 Defra survey.

¹ The 2009 *Public attitudes and behaviours towards the environment survey* follows previous surveys since 1986. The spring 2009 survey, commissioned jointly by Defra and the Energy Saving Trust, consisted of 2,009 face to face interviews in people's homes. Additional questions were included in an omnibus survey consisting of 1,772 face to face interviews. Both the main survey and omnibus survey were administered by TNS Global Market Research. Full report: www.defra.gov.uk/evidence/statistics/environment/pubatt/ (accessed 6/10/09).

Table 1: Salience of environment as an important issue	
Mention the environment as the single most important issue facing Scotland	4
Mention the environment as one of the most important issues facing Scotland	8
Mention the environment as the single most important issue facing the world	14
Mention the environment as one of the most important issues facing the world	13
Do not mention the environment at all	61
<i>base</i>	<i>3,054</i>

Concern about environmental matters is differentially distributed in the Scottish population. The higher the socio-economic status of the respondent, the more likely they were to refer to environmental issues. Similarly, in relation to level of education, half of those with a degree, or equivalent professional qualification, name environmental issues as important, compared with one quarter of those with least educational qualifications.

Table 2: Salience of Environment by Socio-economic Group								
Salience of Environment		Socio-economic group						Total N
		A	B	C1	C2	D	E	
Environment an important issue in Scotland	% within SEG	28.8%	16.9%	13.7%	8.9%	8.8%	7.3%	368
Environment an important issue in world	% within SEG	36.4%	34.4%	30.9%	23.3%	19.8%	18.5%	819
Environment not mentioned	% within SEG	34.8%	48.7%	55.4%	67.8%	71.4%	74.2%	1867
Total	N	66	575	915	631	511	356	3054

Table 3: Salience of environment by highest level of qualification

Salience of Environment		Highest level of qualification obtained					
		Degree, prof	HNC/HND or equiv	Higher, A level or equivalent	Standard or equivalent	None	Total
Environment an important issue in Scotland	% within level of qualification	17.7%	15.1%	15.0%	9.5%	6.4%	366
Environment an important issue in world	% within level of qualification	32.7%	31.6%	31.1%	23.6%	19.7%	807
Environment not mentioned	% within level of qualification	49.6%	53.3%	54.0%	66.9%	74.0%	1836
Total	N	776	272	441	798	722	3009

Neither age nor sex of respondents produced much variation. Modelling both social class and level of educational attainment together indicates that the effect of socio-economic status is somewhat stronger than education². It is worth pointing out, however, that among those with degrees around half do not regard environmental issues as a significant cause for concern, and among those in the highest social class the figure is around one-third.

How Much Do People Claim to Know about Climate Change?

A similar pattern was evident when survey respondents were asked explicitly how much they knew about climate change, although this time education had a stronger effect than social class, possibly as a result of asking people about their level of knowledge. Just under half (48%) of all respondents stated that they knew a lot or a fair amount, while the remaining 52% claimed to know ‘not very much’ or nothing at all, suggesting that for a significant proportion of the population, there is limited awareness of discussion about climate change. Awareness in England seems somewhat higher, with around 60% per cent of respondents to both the 2007 and 2009

² Using binary logistic regression, and reference categories highest social class and highest levels of educational attainment, the beta coefficient for the lowest social class reduces from 1.685 to 1.302 when education is introduced in the model, whereas the lowest education category reduces from 1.062 to .648.

Defra surveys saying they knew ‘a lot’ or ‘a fair amount’ about the term climate change³.

Table 4: ‘On another topic there is a lot of talk these days about climate change. How much, if anything, would you say you know about it?’

	Percent
A great deal	5.3
A fair amount	43.0
Not very much	39.5
Have heard of it but know nothing about it	10.2
Have never heard of it	1.3
Don't know	.6
<i>base</i>	3054

Differences between social class and levels of education

As with concern about environmental issues, those in more affluent households, and those with higher levels of educational qualifications, were more likely to claim a lot or a fair amount of knowledge.

Table 5: Knowledge about climate change by level of qualification

Knowledge about climate change		Highest level of qualification				
		Degree, prof	HNC/HND or equiv	Higher, A level or equivalent	Standard or equivalent	None
Know a great deal or a fair amount	% within level of qualification	75.0%	60.7%	55.9%	37.4%	24.6%
Know not very much or nothing	% within level of qualification	25.0%	39.3%	44.1%	62.6%	75.4%
Total N		773	270	438	792	714

³ Question wording in the Defra Surveys was slightly different from SEABS08: people were asked: ‘how much if anything would you say you know about the following terms?’

Climate change (to always appear first in the list)

Global warming

Carbon footprint

CO2 (carbon dioxide) emissions

Biodiversity’

Table 6: Knowledge about climate change by social class

Knowledge about climate change		Social class					
		A	B	C1	C2	D	E
Know a great deal or a fair amount	% within social class	80.3%	71.3%	54.0%	42.7%	29.8%	29.6%
Know not very much or nothing	% within social class	19.7%	28.7%	46.0%	57.3%	70.2%	70.4%
Total	N	66	574	911	627	507	351

Binary logistic regression, modelling class and education separately, shows that both have significant effects, but that, modelling both together, the effect of class diminishes when education is introduced, suggesting that this time education has the greater effect⁴.

Differences between men and women in claimed knowledge

Regardless of education, or social class, there is a marked difference between men and women, with 57% of men compared to 40% of women claiming to know a lot or a fair amount about climate change.

Table 7: Knowledge about climate change by sex of respondent

Knowledge about climate change		Sex of respondent		
		Male	Female	Total
Know a great deal or a fair amount	% within Sex of respondent	57.5%	40.7%	1474
Know not very much or nothing	% within Sex of respondent	42.5%	59.3%	1558
Total	Count	1432	1600	3032

When social class, education, sex and age are modelled together, the results indicate that education and sex are the more powerful explanatory factors, and are independent of each other in their effect, both remaining significant while social class, and especially age, weaken.

Models do not of course in themselves provide an explanation for this pattern, but they are indicative. Knowledge claims are likely to vary depending on a respondent's

⁴ For example, the beta coefficient for the lowest social class reduces from 2.289 to 1.232 when education is included in the model, whereas the coefficient for lowest educational level reduces from 2.218 to 1.804 under the impact of social class.

imagined 'reference group'. Someone with basic knowledge might say that they 'knew a fair amount' if their implicit comparison was with a presumed wider public with limited knowledge, or conversely that they knew 'not very much' if their implicit comparison was with an expert group. The difference between men and women may suggest a cultural gender difference where men are more likely to claim to be knowledgeable than women, regardless of the topic, or it might mean that they have different reference groups in mind, or indeed that men *are* more likely than women to have greater knowledge. A similar process may operate in relation to social class and education, with the more educationally qualified and those in higher social classes expressing more confidence in their claim to knowledge.

Overall however the fact that over half (52%) of the Scottish sample (in comparison with 40% of the English sample) claimed to know 'not very much' or nothing at all about climate change, including one quarter of those educated to degree level and 59% of women, highlights the need for high profile, accessible education about climate change, its causes, its likely consequences and the associated policies for change in energy demand and efficiency, and the plans for low carbon energy supply. Without public engagement, willing participation in measures to reduce carbon emissions will be limited.

Who Do People Trust to Provide Information?

Survey results suggest that effective education about climate change is not however simply a matter of government providing information to a receptive public. Very few people cite government publications or leaflets (11%), or government websites (3%) as key sources of information. Instead TV and radio news (69% of respondents mention these), and documentaries (57%) are dominant, with around 30% mentioning either broadsheet or tabloid newspapers. The sources regarded as most important were also radio and TV news (36%) or documentaries (29%), while government publications, leaflets or websites were referred to as the most important source by less than 1%.

Independent scientists are the group most likely to be trusted to provide correct information, cited by 45% of respondents, in comparison with *government* scientists cited by 9%. Those least trusted were the UK government, and tabloid newspapers,

each cited by 34%. In comparison, the Scottish government was least trusted by 17% and most trusted by 12%.

The implications of these findings are that influential routes to education about climate change for the majority are likely to be TV and radio news and documentaries, which are grounded in evidence from independent scientists, whose sources of financial support are also made public. A public sceptical of government motives seems unlikely to be convinced simply by government information and social marketing. Limited trust suggests that government-coordinated projects to improve understanding about climate change, and its social and economic consequences, need to be part of wider ambitions to strengthen participative democracy, treating engagement as two-way, dynamic and dispersed, and not as a one-way flow of information from sender to receiver.

Personal Responsibility and Climate Change

The first report of the UK Committee on Climate Change (2008) estimates that domestic heating and electricity account for around 25% of total UK carbon emissions, with private domestic transport accounting for a further 24%. The Scottish Climate Change Delivery Plan (2009) sets 2020 targets for around a 40% reduction (from 2006 levels) in emissions from energy use in housing, and around 30% reduction in emissions from private transport. Meeting the early reductions set by carbon budgets in Scotland in the next decade will therefore depend heavily on significant changes in behaviour at household level through shifts in consumption, ranging from car travel to domestic energy use, to shopping and leisure activities.

There is a considerable gap however between the reductions notionally targeted by legislation and the awareness and preparedness of people to make such changes. Most people do see climate change as a cause for concern: 85% disagreed that 'Climate change will only have an impact on other countries, there is no need for me to worry' and 57% agreed that climate change is an immediate and urgent problem (Davidson et al 2009: 47-48). In disagreeing with the statement that 'it's not worth me doing things to help with the environment if others don't do the same', around two thirds (68%) also indicated that they were willing to act, even if others did not. When this is translated more directly into a sense of personal responsibility for action over climate

change however, slightly less than half (48%) relate climate change to their own lifestyle, and around one third distance themselves from responsibility, with 35% agreeing with the statement ‘I don’t believe my behaviour and everyday lifestyle contribute to climate change’, and a further 17% adopting a neutral position. The belief that personal behaviour does not contribute is somewhat higher in Scotland than England, where 28% of respondents to the Defra 2009 survey regarded their own behaviour as irrelevant⁵.

It might be expected that those for whom the environment is salient would be more likely to see their own activities as implicated, and this expectation is broadly confirmed, with 56-60% of this group disagreeing with the statement ‘I don’t believe my behaviour and everyday lifestyle contribute to climate change’. Nevertheless over one-quarter of those for whom the environment is salient share the view that their own behaviour is not a contributory factor.

Table 7: Percentage disagreeing with the statement: ‘I Don’t Believe my Behaviour and Everyday Lifestyle Contribute to Climate Change’ by Salience of Environment

Salience of Environment	% disagreeing
Environment important issue in Scotland	60%
Environment an important issue in World	56%
Environment not mentioned	42%
Total N Disagreeing	1287

When asked about likely causes of climate change, very few respondents referred spontaneously to household contributions, with only 5% mentioning domestic use of gas and electricity, suggesting that most people do not make an immediate connection to domestic consumption of energy, although a higher proportion (35%) mention ‘general emissions including those from cars and road transport’.

⁵ Both SEABS08 and Defra 2009 survey items used the same wording.

Other survey findings confirm this picture. Relatively low awareness of energy efficiency and energy saving is common, suggesting that people do not routinely connect domestic energy use with climate change: typically less than half the respondents for example knew the efficiency rating of recently bought electrical appliances such as fridges, freezers and washing machines. The majority (55% of electricity users and 58% of gas users) estimated that they were using the same amount of gas and electricity as in the previous year, and among the 21% who estimated that they were using less, only 16% of electricity users and 13% of gas users cited environmental concerns as the reason. Routine reliance on car travel even for short distances is very common, such that 44% of car users living within a mile of their workplace drove to work. Neither does concern about the environment translate into less car use, as shown by the regression analysis carried out by Davidson et al (2009: 50).

Altogether there remain significant gaps between the acknowledgement of climate change as important and the recognition of any personal responsibility to make changes; and between recognition of the personal contribution of ‘normal consumption’ and actual changes in behaviour.

Interpreting Responses to the Question ‘Which two or three of the actions on this list do you think would do the most to help reduce climate change?’

All survey respondents who said that they knew at least something about climate change (N=2699) were shown a list of 14 actions⁶ and asked to indicate the two or three which they thought were most likely to reduce it. The most common actions cited were recycling (45%), avoiding waste (36%) and using a more fuel efficient car (32%), while using less electricity was nominated by around one quarter (24%) and taking fewer foreign holidays by only 12%.

⁶ Actions Listed: Recycling, Buying fewer products generally, Avoiding creating waste in the first place, Making fewer car journeys, Using less electricity, Taking fewer foreign holidays, Walking or cycling, Using public transport, Buying locally grown food rather than food produced abroad, People having fewer children, Using a more fuel efficient car, Reusing bottles/containers, Using water sparingly, Buying organic produce, None of these, Don’t know, Refused.

This pattern of answers can be interpreted in a variety of ways. First, the responses can be seen as evidence that provision of a public infrastructure, in this case kerbside recycling, which makes change practical, convenient and low cost, has an impact on understanding and behaviour. Actual patterns of use of kerbside recycling support this view: between 66% and 80% of those with access to the services always or mostly use them. Even when the actions required are very simple however, between 13% and 25% choose not to act. It may be that some of them use very few bottles, cans or paper, with others perhaps resistant to separating their waste into different categories for collection.

Table 8: Use of Kerbside Recycling Facilities

	Always	Most times	Sometimes	Rarely	Never	Don't know	N
Bottle	60	6	5	3	25	1	1,967
Can	63	5	5	3	22	1	2,217
Paper	76	4	4	2	13	0	2,699
Garden waste*	72	6	6	2	13	0	1,894

(*those with gardens) Source: Davidson et al (2009) p.61.

A second, less sanguine, interpretation of responses to the question about actions likely to reduce climate change is that they reflect an assumption that minor adaptations to existing habits will be sufficient. Given that the most commonly cited action was recycling (45%), this could be taken as evidence of a belief that little change is needed, as long as waste is recycled. Similarly the 32% nomination of 'using a more fuel efficient car' may signal belief that expectations about travel and car use need not change, as long as future car purchases take account of fuel efficiency.

Certainly politicians have concluded that there is limited public support for structural measures such as carbon taxes, or stronger regulation of businesses, which are perceived as risky or 'heavy handed'. This is used to justify government adoption of a cautious approach (Hale, 2008), exemplified by Defra's (2008) *Framework for Pro-Environmental Behaviours* which uses current consumption patterns to argue that any change must 'fit within people's current lifestyle, even if one might aim for more fundamental shifts over the longer term' (p.18). Policies then focus on social

marketing technologies, such as ‘choice editing’ and encouraging change through behavioural ‘entry points’, which seek to persuade people to make small changes such as remembering to switch off lights or take a shorter shower (see for example <http://actonco2.direct.gov.uk/actonco2/home.html>).

Reliance on small changes reflects a voluntarist model of behaviour, and a ‘citizen consumer’ identity (Needham, 2003), derived from neo-liberal political-economy. This asserts that society is made up of rationally self-interested individuals, who are motivated to maximise personal short-term gain. Critiques of 1970s-style planned economies and market regulation, such as those by Friedrich von Hayek, and a sceptical public, distrustful of politicians, have been influential in the reluctance of governments to use direct taxation and regulation to shape the framework of incentives and disincentives. Responsibility is attributed instead to individuals in making their own choices, limiting the responsibility of elected government to an enabling, rather than an explicitly structural, role in the direction of society. Social marketing has however had limited impact in comparison with the significant commercial marketing budgets of large-scale retail. Healthy eating campaigns for example have correlated with rising rates of obesity (Haslam et al 2006). At best such campaigns are slow to effect measurable change, suggesting that the little by little approach may operate as a self-fulfilling prophecy, because it implicitly promotes the belief that small changes are sufficient, when in fact more radical action is needed.

In addition empirical evidence from evaluation studies of the ‘small steps’ model, reviewed by Thøgersen and Crompton (2009) on behalf of WWF, suggests that there is no dependable link from ‘simple and painless’ change to progressively greater commitment to more major change: ‘the cumulative impact of large numbers of individuals making marginal improvements in their environmental impact will be a marginal collective improvement in environmental impact’ (Thøgersen and Crompton, 2009: 6). Similarly David MacKay, the Cambridge Physicist appointed in 2009 as a UK government Department of Energy and Climate Change scientific adviser, concludes from his evaluation of the balance between UK energy consumption and the potential for energy supply from non-fossil fuel sources: ‘Don’t be distracted by the myth that “every little helps.” *If everyone does a little, we’ll achieve only a little.* We must do a lot. What’s required are *big* changes in demand

and in supply' (MacKay, 2009: 114).

Hence a third interpretation of the responses to this survey question concerns the assumptions behind the framing of the item itself, which invited answers focusing on *individual* actions. Although the question gave respondents an opportunity to say 'none of these', the way it was framed excluded answers which prioritise shared responsibility through, for example, use of government powers of regulation in relation to fossil fuel production, energy supply, building standards, manufactured goods or environmental pollution. Neither did it provide an opportunity for a respondent to identify investment in low-carbon infrastructure for public transport, micro-generation schemes, or the development of a smart electricity grid, as an important action.

High levels of household energy and car use certainly indicate that reducing domestic consumption will be necessary in order to meet interim emissions targets, but there are serious limits to what can be achieved by individuals: given a reasonable income, and a degree of control over time use, an individual might choose not to drive a car, or to travel less or use trains instead of planes, or to insulate their house and grow vegetables, but these 'choices' are made difficult by the systematic incentives and constraints of a consumer society: time has become a commodity for spending and saving; public transport is often the more expensive choice and requires more time; flights may be cheaper and faster than trains; employment, housing and domestic situation may work to increase car dependence, and prevailing social norms valorise spending and consuming more not less. Even assuming willingness to reduce consumption, individuals on their own cannot decide to improve public transport, restrict airport expansion, increase fuel taxes or end subsidies for fossil fuel. There is also evidence that, given the global impacts of climate change, people feel strongly about the need for governments to take the lead (Giddens, 2009). Government powers of regulation and taxation create the framework of costs and benefits within which businesses operate, and individuals make choices. These structural issues raise questions about the political analysis and understanding behind the legislation, and are indicative of the contradictions between the primary value placed on maximising economic growth through consumption on the one hand, and policies to cut carbon emissions on the other.

Societal Barriers to Reducing Consumption

Consumption patterns in affluent societies are typically attributed to individual preferences, stemming from hedonism, escapism, quest for novelty, and desire for social status (Belk et al 2003; Offer, 2006), but these are socially-organised values learnt through interaction, and are not inevitably given expression through the purchase of consumer artefacts. Their meanings are derived from the social relations in which actions are embedded, and these are the economic relations of a consumer society, constituting a systematic framework of incentives to consume more.

Economic growth in the UK since 1990 has been stimulated by rapid expansion of consumer credit, premised on rising housing prices: personal debt has doubled in less than a decade, to around £1.5 trillion in 2008, a figure higher than UK annual GDP (Jackson, 2009). Marketing and advertising drive dominant messages about the value of consuming more, sometimes resulting in apparently contradictory incentives such as in the recent Tesco campaign to persuade people to switch to low energy light bulbs, and then reward themselves with cheap flights! The power and persuasiveness of transnational retail over social values is apparent: Tesco for example has sales of around £1bn per week, with approximately £1 in every £7/£8 spent in Britain going through Tesco checkouts, and the company broke British retail records with over £3bn profits in 2009.



Iconic products such as the car have become key aspects of social identity, both practically as a means of participating in society and symbolically as a marker of status, values and priorities: large cars are commonly a source of prestige, even though they are criticised on environmental grounds and pose dangers to pedestrians and cyclists (Amin and Thrift 2004). Unrestricted car use is widely accepted: even among those SEABS08 respondents who regarded the environment as a salient issue, 45-48% agreed that ‘people should be allowed to use their cars as much as they like’, and this was even higher (57%) among those for whom environmental issues were not salient.

Increasing car ownership paradoxically limits the choice of alternative means of travel: urban and rural infrastructures are built increasingly around car use, and road networks, parking provision and traffic flow engineering are central concerns of governments and industries. British government spending on roads in 2009 was budgeted at £10.2 billion, reinforcing the centrality of the car, increasing transport emissions and public health problems, and thereby reducing the amount of money available for spending on parks, gardens, forests and waterways (Vidal, 2009). Car use has been further reinforced by government incentives to buy new cars in a scheme offering £2,000 towards the cost, when trading in a vehicle more than 10 years old, and plans for road-user charging have been deferred, because of the opposition represented by 1.8 million signatures on an e-petition on the www.number10.gov.uk website. This stance is reflected in the 55% of SEABS08 respondents who opposed congestion charging. As John Urry has pointed out:

‘the car system is a Janus-faced creature, extending individuals into realms of freedom and flexibility but also constraining them to live spatially stretched and time-compressed lives...Yet in order to cope with the ‘mass’ adoption of individualised automobility, a systemic assemblage of artefacts, support and forms of governance are required’ (Urry, 2008: 344).

Current consumption patterns arguably reflect a kind of ‘banal consumerism’, organised, as the SEABS08 results show, around convenience, cost and a perceived lack of alternatives. Most people rely on buying their food in supermarkets, with over half doing most of their grocery shopping there, while those most concerned about environmental issues are paradoxically the heaviest users of air travel (presumably

related to their generally higher income level) (Davidson et al 2009). Even small changes in consumer artefacts may produce social dissent: the recent government decision to withdraw incandescent light bulbs gradually from the market for example produced media suggestions of ‘public revolt’ –



Once in place, such a system is a material and cultural barrier to change. Higher consumption however produces higher carbon emissions: cars, phones, computers, TVs, fridge-freezers and so on rely on energy-intensive manufacturing and consume energy in use. Direct production-based carbon emissions per capita in Scotland are around 8.2 tonnes CO₂e per annum, compared with UK per capita emissions of 9.7 tonnes, an American average of 19.8 tonnes, and a Chinese average of 4.6 tonnes, while the average Kenyan manages on 0.3 tonnes (UNHDR 2007/08). These figures do not include emissions embedded in artefacts manufactured in one country and consumed in another. Since the UK is a net importer of manufactured goods, a consumption-based account (using data on carbon embedded in imported products and in their transport) suggests that UK emissions have increased since 1990 by around 19% (Helm et al, 2007), and that per capita emissions are around twice the reported figure <http://news.bbc.co.uk/1/hi/sci/tech/8283909.stm> (accessed 9/10/09).

The Significance of Social Values in the Amelioration of Climate Change

Historically societies have responded differentially to natural resource crises and environmental degradation, depending on the values and beliefs enacted through their political, economic and social institutions (Diamond, 2007). Modern societies are organised around the core values of economic growth as the means to current and future material wealth and human well-being. The effect has been to locate debates about the mitigation of climate change firmly in the realm of a calculative economics, with opponents of mitigation (such as former US President George W Bush) arguing that such actions would have an unjustifiable negative economic impact. Cost benefit analysis (CBA), which is a significant economic tool of climate policy, is a powerful symbol of the underlying values informing debate about mitigation. CBA techniques allocate a monetary value to all activities and resources, enabling them to be made theoretically commensurable with one another: monetary transfers enabled by anticipated future economic growth may be treated as adequate substitutes for anticipated permanent loss of natural resources or ecosystems (Hulme, 2009). CBA inevitably entails value judgements by its users, particularly in relation to climate change where calculations cannot be based on historical observations of actual events, but are devised in the face of enormous uncertainty about potentially extreme consequences of increasing global temperatures. These include judgements about loss of life in the face of resource conflict, disease, drought, flooding, crop failure, loss of species and so on. The CBA ‘discount rate’ metric treats spending to mitigate future climate change as a loss of current welfare, which may not be justified by the value added to the welfare of future generations. Use of a discount rate which treats future generations as equally important to the current one, as in the Stern Review (2006), has however been criticised on the grounds that foregoing consumption now for the sake of future generations will mean less for today’s poor (Pearce, 2003).

Treating society, economy and environment as aligned along a single scale of monetary value may hence make it seem that there is a conflict between prioritising present welfare and prioritising the mitigation of climate change. Economic growth is conventionally viewed as fundamental to ending poverty, so that calls to limit growth and consumption are seen as undermining the momentum to address poverty (Hodder and Martin, 2009; Hulme, 2009). There is however increasing evidence that the high value placed on economic growth *per se* as serving the interests of both present and

future generations, and as key to solving global poverty is wrong. In the last 20-25 years, the global economy has doubled, and employment has increased, but income inequality has risen dramatically and the UN Human Development Index shows that between 1990 and 2003 there were unprecedented reversals in welfare for the 460 million people in 18 of the poorest countries (UNHDR, 2005). Moreover ‘in the midst of an increasingly prosperous global economy... more than 1 billion people survive in abject poverty on less than \$1 a day’ (UN Human Development Report, 2005: 17). Neither has increasing affluence, measured as growth in GDP and per capita income, correlated with steadily increasing life satisfaction (Inglehart and Klingemann, 2000; Jackson, 2009). Rising income inequality in societies such as the UK and USA does however correlate with increasing drug and alcohol abuse, obesity, mental health problems and suicide, as well as shorter life expectancy and lower educational achievement (Wilkinson and Pickett, 2009).

The doubling of the global economy since 1990 (the Kyoto base year) has also been accompanied by a significant rise in global carbon emissions of around 40%, evidence of accelerating global warming, and further degradation of ecosystems on which some of the poorest populations depend for food and water (Jackson, 2009; OECD, 2008; Torres, 2008; UN Human Development Reports 2005, 2006 and 2007/08). The current crisis in financial markets has triggered a major global recession, adding to evidence that the belief in unlimited growth in deregulated markets as a means to human welfare is deeply flawed.

Can Liberal Democracies Work to Change Dominant Values?

The combined impact of pluralist politics, materialistic values and commitment to unlimited economic growth poses questions about whether liberal democracies can successfully mitigate climate change (Giddens, 2009; Shearman and Smith, 2007). Among the affluent democratic societies, Sweden is generally cited as having the strongest stance on cutting emissions, and this has been attributed to its more egalitarian values, and beliefs that the environment, society and economy are integral parts of wellbeing. Prompted by OPEC oil price increases, energy efficiency has been a matter of public concern since the 1970s. The introduction of a carbon tax in 1991 increased fuel costs (although many key industries receive tax relief or are exempted), and created incentives for investment in district heating schemes, low carbon heat

pumps and other energy efficiency measures (Fouche, 2008). Sweden is noted for having the first biogas train, and for using biofuels, sourced from wood chips and other waste, in 15% of vehicles. Car dependency however remains part of life in Sweden just as it is in the UK, and although measured emissions reductions between 1990 and 2006 are stated as 9%, to around 5.6 tonnes CO₂e per capita per annum, if the emissions embedded in imported consumer products were included, its per capita emissions are likely to be considerably higher. Nevertheless the Swedish form of corporatist governance, an organised civil society, and social democratic, egalitarian values have enabled the adoption of a programme for an oil-free economy by 2020, with government, industrialists, academics, agriculturalists and civil society sharing responsibility for action (BBC news Wednesday, 8 February 2006 <http://news.bbc.co.uk/1/hi/sci/tech/4694152.stm>).

The Swedish case suggests that in liberal democracies, government regulation to provide an appropriate framework of incentives is a necessary means of building on and reinforcing core values. Multi-level government, deregulated finance and powerful transnational business interests in Europe, mean that neither EU member states nor devolved governments have sole control of economic, social and environmental regulation. Competition, trade and industrial policies are governed at European, as well as UK and Scottish, levels, with economic policy shaped by deregulated finance capital. The policy-making arena is complex, but this makes the articulation of distinct policy and innovative action by devolved governments more important, because democratic societies have the capacity to mobilise significant resources. The expectation that devolved government in Scotland would stimulate a more progressive politics has not been fulfilled as yet: ‘there has been a disappointing absence of policy debate and innovation’ (Keating, 2007: 9). There remains a vital role for ‘devolved thinking’ about a distinctive Scottish rationale for action, potentially challenging the liberal individualism of Anglo-American market capitalism. This requires the active civil society and participative social democracy envisaged by the Scottish Constitutional Convention, and embodied in the principles devised by the Consultative Steering Group for a Scottish Parliament.



Political engagement, as a significant constituent of change in democracies, requires willingness by elected politicians to debate the social costs and consequences of current values. The exercise of political leadership that stimulates support across business, public services and civil society, requires not just courage and political acumen, but also willingness to lead by example. This means adopting highly visible measures demonstrating reduced consumption of energy, practicing sustainable procurement of goods, services and buildings, prioritising reuse and recycling, and cutting inessential air and road travel. The Scottish government has the advantage of being somewhat more trusted than the UK government as a source of information on climate change: 12% would trust it most, compared with 10% trusting the UK government most, while 17% would trust the Scottish government least, in comparison with 34% who would trust the UK government least. So far however the record of leading by example to reduce carbon emissions is limited. The annual report on environmental performance of Scottish government buildings saw an increase in energy use of 2.5% in the previous year (Audit Scotland Energy Efficiency report, 2009) and the first report of the government's Council of Economic Advisers (2008) comments that practical measures are needed if a substantive contribution is to be made by government to cut emissions between 2010 and 2020.

Changing Values through Mobilising Civil Society

The most significant shifts in social values seem likely to come about through civil

society influencing government: ‘People are neither willing nor able to take decisive action alone on an issue of this scale and complexity. But they will very often do so if they have opportunities to act in concert with others’ (Hale, 2008: 3). Social movement and civil society organisations and NGOs, from Stop Climate Chaos to the Women’s Institute and Christian Aid, have already been instrumental in shaping the strong climate change legislation in Scotland and the UK. The Transition Towns movement (www.transitiontowns.org), with 94 Transition Towns, Villages, Cities and Islands in the UK and a further 40 around the world, is also a prominent community actor, working to facilitate social transition to a low-carbon economy (Seyfang, 2009). Support for the view that involvement in civil society leads to perceived responsibility to act can be inferred from SEABS08 evidence that volunteering *per se* is associated with a sense of responsibility for public issues such as climate change: out of the one third of respondents involved in volunteer activity in the past year, the majority believed that their behaviour contributed to climate change, in comparison with less than half of the non-volunteers (57% of active volunteers rejected the statement that their behaviour and lifestyle did not contribute to climate change, in comparison with 45% of those who were not involved in volunteer activity).

Recent government strategies also recognise the potential for civil society to create momentum for change. Although UK sustainable development strategy is couched in the voluntarist language of ‘helping people make better choices’, its lead measure for achieving this is a programme of community engagement: ‘Community Action 2020 – Together We Can’ (*Securing the Future: UK Government Sustainable Development Strategy*, 2005) explicitly builds on the role of civil society in reshaping consumption. In Scotland the potential for community action to stimulate change has been recognised by the Climate Challenge Fund, with a budget of £27.4m over three years. Proposed by the Green Party during the 2007 Scottish Parliamentary elections, it was adopted by the Scottish Government as part of 2008 budget negotiations, and provides investment in community projects to reduce carbon emissions. Moreover the 2009 DFID White Paper ‘Eliminating World Poverty’ is subtitled ‘our common future’, makes reference to the common good, and includes reference to the critical role of civil society organisations in campaigning for change and delivering support.

Conclusion

Public attitudes and behaviour in Scotland can be interpreted as moving towards acceptance of the urgency of action, or more pessimistically as only partially recognising the significance of climate change for the security and welfare of society. For many people, climate change remains a distant issue, and there is little evidence of broad public engagement with the targets set by climate change legislation, which require substantial reductions in domestic GHG emissions between now and 2020. Concern about environmental resources and knowledge about climate change are unevenly distributed in the population. Those in higher socio-economic groups, and those with higher levels of education, show most awareness, but this does not translate into reduced consumption and energy saving. Only around half of the population regard their own lifestyle as directly contributing, and this is only slightly higher among those expressing concern about environmental issues. Even fewer people make a direct connection between climate change and personal consumption, car and energy use. The reliance by government on social marketing and individual small changes may be contributing to a belief that minor shifts in lifestyle, such as recycling more waste, will be sufficient. There are therefore major demands on democratic governance, not least in the immediate needs for public education and debate, and in the need to address the gap between general public concern and specific recognition of the necessary changes in domestic consumption. The scale of change envisaged cannot be achieved through relying on the sum of possible individual choices; in addition to extensive public engagement, it requires governments to use all of their powers of regulation to change the framework of price incentives, and to encourage private capital into low-carbon investment.

The current economic crisis is an opportunity to rethink the core values of deregulated markets, consumerism and intensive exploitation of resources for short-term economic growth. The Reith Lectures, 2009, given by Michael Sandel, Professor of Government at Harvard, drew attention specifically to the prospects of a new politics for the common good:

‘Some of the good things in life are corrupted or degraded if turned into commodities, so to decide *when* to use markets, it’s not enough to think about efficiency; we have also to decide how to value the goods in question. Health, education, national defence, criminal justice, environmental protection and so

on – these are moral and political questions, not merely economic ones... without ever deciding to do so, we drifted from having a market economy to being a market society’ (Sandel, 2009: 10).

Market society has been associated with rising global inequality, economic instability, and financial and ecological crisis. Around \$7 trillion of public money has been committed to securitise risky assets and recapitalise banks, but there is as yet limited political momentum over future alternatives which face up to the severe failure of this set of core values as a means to solve the combined problems of debt, poverty, conflict and climate change. Current public finances depend on perpetual GDP growth to maintain employment and public spending, and to manage macroeconomic relations, and at present there is no alternative politically accepted macroeconomic model for sustainability (Jackson, 2009). In these circumstances, finding the political courage to engage the public in debate about the kinds of social transformations needed to meet commitments in climate change legislation is understandably challenging.

Moves towards sustainable resource use require a participative politics grounded in civil society, which can facilitate engagement across entrenched divisions, manage distributional conflicts and recognise the damage to prosperity from current market forms. Climate change is not ‘just an environmental matter’; it is already a cause of conflict, disease, famine, poverty and death, and will become more so. Scotland’s Climate Change legislation demands a transformational politics able to debate the long-term common good, not one of incremental change and individualism. Without this, the ambition to govern climate is likely to be more symbolic than substantive.

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