

Carbon off-setting behaviour: catalyst for – or evasion of – low- carbon lifestyles?

Dr Lorraine Whitmarsh &
Dr Saffron O'Neill

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Tyndall^oCentre
for Climate Change Research

UEA
University of East Anglia

Carbon offsetting

“The purchase of credits from greenhouse gas emission reduction projects in one place to counter the emissions of greenhouse gases in another place” (POST 2007)

- Growth of voluntary off-set market: worth >US\$91m (Hamilton et al., 2007); ca. 15% of market are individual/private consumers (3% of UK population; DEFRA, 2007)
- Initial research (with corporate consumers) suggests rationales for off-setting are diverse; but there are also ethical and technical criticisms (Lovell et al., 2008)

Carbon literacy & low-carbon lifestyles

- Individual direct (domestic, transport) actions = $\frac{1}{3}$ - $\frac{1}{2}$ of total UK emissions (*also* indirect emissions)
- Major cuts in emissions (60%+) require public engagement; limited behavioural impact of current policies (recycling most common response; Whitmarsh, 2008a)...
- How to promote carbon literacy; and the holy grail of ‘catalyst behaviours’ (e.g., DEFRA)!



Theories of (environmental) behaviour

Overcoming the value-action gap

- Multiple internal and external influences on 'pro-environmental' behaviour (Stern, 2000)
- 'Value-action' gap – inconsistency, dissonance, & barriers to behaviour change (Lorenzoni et al., 2007)
- Social influence, [specific!] attitudes and perceived ability to act influence action (Theory of Planned Behaviour; Ajzen, 1991)

Catalyst behaviours?

- Evidence for 'spill-over' effects appears to be limited to related practices (Thøgersen & Olander, 2003)
- *But* could self-identity / self-perception be relevant? (Bem, 1963; Cook et al., 2002). Adopt particular (visible) pro-environmental action > greener self-identity > more sustainable lifestyle??
- Alternatively: rebound effect/crowding out (energy↑!)



Research aims

- To investigate public understanding and narratives of carbon off-setting;
- To investigate motivations for, and barriers to, off-setting (i.e., reasons for, and for, not off-setting);
- To compare the characteristics (socio-economic, demographic, values, identity) of off-setters & non-off-setters;
- To investigate the relationship between off-setting behaviour & other climate- and environmentally-relevant behaviours (esp. energy use & green consumerism);
- To further develop understanding about carbon literacy and “carbon capability” (Seyfang et al., 2008); and
- To investigate changes in public engagement with climate change since 2003 (Whitmarsh, 2008a, 2008b, 2008c)



Survey of public attitudes to offsetting

Internet and postal survey – Aug/Sept 08

- Representative postal survey: 3,000 questionnaires hand-delivered across 9 diverse wards (in Norfolk & Hampshire)
- Internet survey advertised on a range of web fora and email lists (esp. to attract sufficient off-setters)
- Survey comprised 8 pages of 36 qual/quant questions (+sub-questions) on carbon literacy; attitudes to climate change & offsetting; pro-environmental & offsetting behaviours; TPB variables for offsetting; env. self-identify & value measures; demographic measures
- Most measures used in, or adapted from, previous studies and qual. research (e.g., Whitmarsh, 2008; DEFRA, 2007; Lippincott Mercer, 2007; Lovell et al., 2008; Cook et al., 2002; etc)
- Possible follow-up interviews with sub-sample of survey respondents

Results: who is offsetting?

Internet survey (N=689)

- 29% of online survey had offset C emissions
- Of these 50% paid money *directly* to an off-setting company (e.g., Climate Care, Carbon Neutral); while 34% bought a product or service (e.g., car insurance) which included off-setting
- 70% of these had offset *flights*

[NB – respondents younger and more educated than postal sample/population]

Postal survey (N=470 so far...)

- Only 7.2% had off-set their C emissions
- More often bought a product that included it (60% of these) - i.e. *indirectly* off-set
- 53.5% of these had off-set *flights*

Results: who is offsetting?

	Off-setters	Non-off-setters	χ^2
Gender (male)	51.8% (36.4)	51.6% (46.7)	0.6; n.s.
Children (none)	78.4% (63.6)	74.1% (78.5)	4.9; n.s.
Age (25-44)	68.8% (33.3)	52.6% (29.4)	15.5; p<0.005
Science education (postgrad. qual'n)	38.3% (7.1)	21.9% (4.4)	15.5; p<0.05
HH Income (over £50k)	39.4% (24.3)	26.5% (20.9)	20.0; p<0.01
Politics (vote green)	35.5% (28.1)	20.3% (10.9)	45.9; p<0.001
PEV score (top 50%)	80.2%	67.2%	20.0; p<0.001
NEP score (top 50%)	93.7%	85.4%	12.6; p<0.01
Green self-identity (top 50%)	98.9%	91.6%	25.7; p<0.01

Figures in black are from internet survey; *comparison postal survey figures in red*

Results: attitudes & perceptions

Knowledge/perceptions of climate change:

	Off-setters	Non-off-setters	χ^2
Knowledge about climate change: know 'a fair amount' or 'a lot'	93.9% (82.3)	85.2% (66.4)	23.9; p<0.001
Risk perception: feel CC is affecting, or will affect, them	87.9% (67.6)	71.2% (51.8)	24.1; p<0.001
Issue importance: say CC is 'very important' to them personally	72.7% (48.5)	42.5% (24.2)	59.3; p<0.001

Attitudes to carbon offsetting:

- In general, attitudes characterised by *ambivalence*
- Off-setters overall rather more positive about benefits of offsetting (for cc, env and dev co's), *but* recognition of downsides/problems of CO.
 - e.g., same proportion (67%) agreed 'CO encourages people to carry on doing things that harm the environment'.
 - Only 20% (versus 9% of non-off-setters) say they 'trust companies offering COs to use the money I paid in the right way'

Results: behaviour

	Off-setters	Non-off-setters	χ^2
Use carbon calculator to work out their carbon footprint	79.7%	47%	60.9; p<0.001
Pro-environmental behaviours (all; 24 regular/ one-off actions) - top 50%	27.8%	9.9%	43.9; p<0.001
Direct energy conservation (12 actions; e.g., turning off lights, eco-driving, car sharing, buying low emission car) - top 50%	14.8%	4.4%	30.4; p<0.001
Driving - travel by car at least 3 days per week	35.9% (66.6)	55.7% (62.4)	33.7; p<0.001
Flying - took one or more flights last year	70.2% (63.6)	62.3% (52)	3.8; p<0.05

Results: behaviour (TPB variables)

	Off-setters	Non-off-setters	χ^2
Social views - say friends', colleagues', and family's views would be 'quite/very favourable' of them purchasing COs	49.5%	21.1%	61.5; p<0.001
Social influence - say friends, colleagues, and family have 'some/large' influence on decision to, or not to, purchase COs	30.1% (17.6)	17.6% (12.2)	26.3; p<0.001
Social action - say friends, colleagues, or family purchase COs	52.3% (32.4)	17.1% (3.1)	100.6; p<0.001
Perceived behavioural control - say they'd find buying COs 'quite/very' easy	80.3%	36.3%	135.99; p<0.001
Intentions - would definitely or probably use CO in the future	69.1%	25.1%	154.4; p<0.001



Conclusions

Most people are ambivalent about off-setting

- Trust, efficacy and moral concerns; but also recognise benefits

Off-setters are different to non-off-setters

- Off-setters *know* more about CC & *care* more about it
- They are also greener, richer and have a higher level of science education
- They report having low-carbon, pro-environmental lifestyles - but are more likely to fly (and to fly a *lot*) than non-off-setters (overall higher C footprint?!)
- Initial analysis from representative postal survey supports main findings from web survey, but much lower levels of knowledge/uptake of CO and less significant differences between O's and non-O's



Future research

- Analyse full dataset
- Test theory of planned behaviour for carbon offsetting
- Investigate relative strength of environmental self-identity in PEB
- Analyse data on carbon literacy, including qualitative data on meanings of 'carbon' (work with GS & IL to develop concept of 'carbon capability')
- Longitudinal analysis of attitudes to climate change (since 2003)
- Carry out follow-up, in-depth interviews with off-setters

Thank you

l.whitmarsh@uea.ac.uk