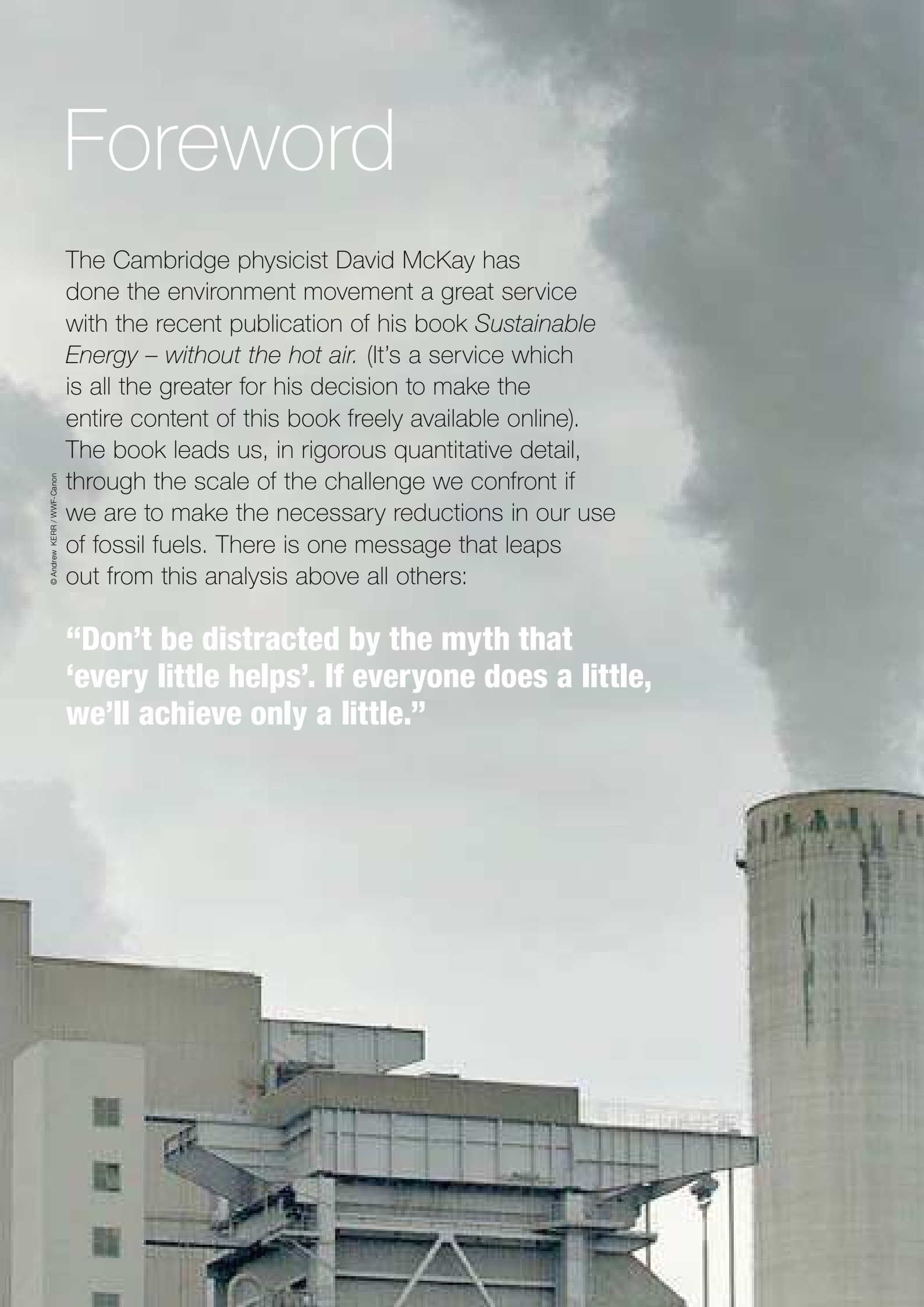# Simple & painless?

The limitations of
spillover in environmental
campaigning

February 2009

Foreword

The Cambridge physicist David McKay has done the environment movement a great service with the recent publication of his book *Sustainable Energy – without the hot air.* (It's a service which is all the greater for his decision to make the entire content of this book freely available online). The book leads us, in rigorous quantitative detail, through the scale of the challenge we confront if we are to make the necessary reductions in our use of fossil fuels. There is one message that leaps out from this analysis above all others:

"Don't be distracted by the myth that 'every little helps'. If everyone does a little, we'll achieve only a little."

This doesn't necessarily pull the rug from beneath all those campaigns to encourage people to adopt simple and painless behavioural changes with negligible direct environmental benefit. But if government, business and non-governmental organisations are to persist in campaigning for such changes, then it must be because it can be demonstrated that the adoption of these will 'spillover' into more ambitious and environmentally significant changes – either large-scale changes in people's 'private-sphere' behaviour, or more active engagement with political process to demand new and ambitious government action.

Last year WWF published a report, *Weathercocks and Signposts: the environment movement at a cross roads*, which critically examined the empirical evidence for the effectiveness of many aspects of current environmental campaign strategies. As part of this analysis, we suggested that there simply isn't the empirical evidence to justify reliance upon spillover from simple and painless steps into more difficult and potentially environmentally significant behavioural change.

We were unprepared for the volume of feedback that the publication of this report elicited. But this feedback was overwhelmingly positive, and the ensuing debate has left us feeling yet more confident in standing by the report's key conclusions.

There was, though, one area where we particularly wanted to deepen and extend our analysis: we wanted to better substantiate our rejection of reliance upon 'spillover' as a central plank in environmental campaign strategies. To do so, we realised that we needed to enlist the help of an academic with an impressive track record of work in this area. We found such an expert in the psychologist Professor John Thøgersen, who has published very extensively on spillover as this relates to pro-environmental behaviour: reporting both on the large number of empirical studies he has conducted in this area, and upon his own deep understanding of the theoretical basis of this effect. *Simple and painless? – The limitations of spillover in environmental campaigning* is the result of this collaboration.

Our work in this area has led us to strive for a new rigour in designing WWF-UK's own campaigns, where these urge our supporters, or the wider public, to do something. We are demanding greater clarity of ourselves on whether we are content to effect the immediate behavioural changes we seek – or whether, in fact, we are aspiring to motivating further and deeper behavioural changes or political engagement. If our focus is on the immediate changes, we must ask ourselves: 'Is this enough?' And if we aspire to motivating further and deeper change as a result of these campaigns, then we must ask ourselves: 'By what mechanisms do we hope that these motivations will arise?'

Publishing reports of this nature invites particular scrutiny of the way WWF-UK itself shapes its campaign strategies. We welcome this scrutiny – whilst recognising, of course, that we still have work to do ourselves.

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Contents

Executive summary

The comfortable perception that global environmental challenges can be met through marginal lifestyle changes no longer bears scrutiny. The cumulative impact of large numbers of individuals making marginal improvements in their environmental impact will be a marginal collective improvement in environmental impact. Yet we live at a time when we need urgent and ambitious changes.

If those in government, business or the third sector persist in advocating 'simple and painless' behavioural changes as a meaningful response to today's most pressing environmental challenges, this must be because they are persuaded that such changes will encourage the adoption of other, and particularly other *more ambitious*, behaviours.

Among these other more ambitious behaviours, engagement with political process will be of particular importance. Whatever the steps that can be taken to mitigate a problem such as climate change through private-sphere behavioural changes, ambitious new government intervention is urgently needed. This in turn requires the development of greater public activism (e.g. participation in direct action), active citizenship (e.g. writing letters to political decision-makers) and passive acceptance of government intervention.

In failing to respond properly to today's environmental challenges, governments are guilty of capitulating their leadership responsibility – but the lack of public pressure for ambitious new government interventions cannot be seen as an excuse for this failure. In the light of this regrettable government timidity, therefore, it is crucial that environmental organisations find more effective ways to generate and mobilise public pressure for change.

The effect by which adoption of one pro-environmental behaviour may increase people's inclination to adopt other pro-environmental behaviours, including political engagement, is known as 'positive spillover'. The particular instance of positive spillover where a behavioural change increases a person's inclination to adopt a second and more ambitious behavioural change is called the 'foot-in-the-door' effect.

Insistence on the use of positive spillover (and particularly foot-in-the-door) strategies legitimises a reliance upon simple and painless behavioural changes, and has undeniable attractions: it can serve to deflect pressure for government to adopt ambitious and potentially unpopular policies and regulations; it allows businesses to claim they are contributing meaningfully to engaging a problem such as climate change through the sale of compact fluorescent light bulbs or washing-lines; and it helps to relieve environmental NGOs of the (potentially upsetting) obligation to draw attention to the full scale and urgency of global environmental problems.

These attractions perhaps go some way to explaining the continued reliance placed on positive spillover and foot-in-the-door, even though the empirical evidence for the effectiveness of these strategies is highly contested. While some researchers suggest that pro-environmental conduct has a tendency to spillover from one behaviour to another, others argue that when people engage in pro-environmental behaviour (perhaps a simple and painless step), they often use this fact to justify not doing other (perhaps more environmentally significant) things. Yet other researchers emphasise the uniqueness of every pro-environmental behaviour and downplay the possibility that pro-environmental conduct in one area will have any implications – whether positive or negative – for the likelihood of acting pro-environmentally in other areas.

The empirical evidence for spillover – both positive and negative – and the theories offered to explain these results are reviewed in Section 3 of this report. We do not argue that positive spillover and foot-in-the-door effects cannot occur – clearly they do, at least under some circumstances. However, we do not find evidence that positive spillover and foot-in-the-door effects occur with the dependability that would be necessary to responsibly advocate their use as a major plank in engaging environmental problems (such as climate change) that require urgent and ambitious interventions. It seems very dangerous to premise environmental campaigns on an insistence that the adoption of 'simple and painless' steps will necessarily spillover into ambitious behavioural change proportional to the scale of the challenge. Our concern is that, at present, many campaigns for small and environmentally insignificant behavioural changes are tacitly justified through an unexamined assumption that these will contribute to delivery on more ambitious and environmentally relevant changes. Worse, we suspect that in many cases such campaigns are embarked upon without any reflection on

the contribution that they may, or may not, make to achieving the ambitious changes that are needed. Environmental campaigners should be clear with themselves about whether a campaign is aimed at delivering a specific behavioural change (the actual focus of the campaign) or whether it is aimed at helping to elicit a wider set of behavioural changes (through positive spillover effects). This discipline would oblige campaigners to be clear about two things: first, the inadequacy of responses to environmental problems that rely upon widespread adoption of marginal reductions in individual carbon footprint; and second, the challenges facing them if they are to use such campaigns as vehicles for promoting more ambitious changes.

Notwithstanding this overall conclusion, we reflect on the implications of research in spillover for the design of environmental communications and campaigns, with a view to optimising the possibility of positive spillover occurring. This leads to a series of recommendations, which are made in Section 4 of the report. The central conclusion of this section is that the reasons underlying the adoption of a particular behaviour have an important bearing on an individual's inclination to adopt further behavioural changes. In particular, an appeal to environmental imperatives is more likely to lead to spillover into other pro-environmental behaviours than an appeal to financial self-interest or social status.

This contradicts the insistence, often made by campaign advisers, that environmental communicators should be indifferent to the reasons they use to urge behavioural change. At least to the extent that a campaign aims to encourage spillover into other behaviours, the reasons given as motivation for the initial behaviour are likely to be very important. Moreover, in striving for clarity about the reasons for advocating a particular behavioural

change, it is important to focus exclusively on the environmental imperatives. Appealing simultaneously to several incentives (e.g. the financial savings *and* environmental benefits arising from energy-efficiency measures) is likely to reduce the instance of positive spillover into other pro-environmental behaviours. (Note, of course, that it may be sensible to focus on a number of different incentives for pro-environmental behaviour *if* the primary concern is to encourage uptake of *that one* behaviour, with little concern about whether this will spillover into other behaviours – but this strategy should be adopted with awareness of the possible costs of this approach.)

Section 5 of the report examines the possibility that, as a result of engaging in simple and painless behaviours, individuals may be more accepting of proposals for government intervention to enforce these and other pro-environmental behaviours. There is little evidence from empirical studies to draw on here, but we propose that the reasons given to incentivise the initial simple and painless behavioural choices are again likely to be important. In general, we speculate that an individual who has experienced a degree of cost or inconvenience in the course of voluntarily adopting a pro-environmental behaviour for environmental reasons will be more likely to support government interventions to enforce that behavioural change more widely than will an individual who adopts a behavioural change for self-interested reasons.

Finally, we reflect briefly on the effect that campaigns for 'simple and painless' voluntary behaviour changes are likely to have on public attitudes towards ambitious new government interventions, *even when these are framed in explicitly environmental ways*. We suggest that framing environmental problems as challenges that can be met through simple voluntary action could serve either to increase public support for government interventions which reinforce these changes, or, on the other hand, reinforce public scepticism of the need for government intervention to restrict certain lifestyle choices. We do not find the evidence to discriminate between these possible outcomes.

An appeal to environmental imperatives is more likely to lead to spillover into other pro-environmental behaviours than an appeal to financial self-interest or social status

1. Introduction

It is now beyond dispute that any proportional response to today's environmental challenges will require profound changes to the way that most people in developed countries, and many of the richer people in developing countries, choose to live. This will entail widespread but far-reaching changes in individual behaviour, fundamental changes in business practice, and the implementation of ambitious new policies and regulations to drive these changes by government.

In examining current approaches to motivating pro-environmental behavioural change, this report concentrates mainly on climate change, because this is the focus taken by most recent contributions to this discussion. But we recognise that there are other pressing global challenges, and that current preoccupation with climate change cannot be allowed to deflect attention from the urgency of addressing these.

The central role of government in intervening to help meet these challenges is clear. But where governments are constrained through resistance from the electorate, mechanisms must be found to create political space and irresistible public pressure for far-reaching change. As one recent and authoritative analysis of the collective failure to properly respond to climate change has argued:

The impasse between government, business and individuals must, somehow, be broken… If we are to do so, we must understand the kind of public intervention that will make a difference… There has been a growing tendency to portray climate change as an issue of personal responsibility… [b]ut this is not simply about our behaviour. While individual behaviour does matter, there are significant limits on our ability to determine our personal carbon footprint. It is governments that determine the carbon intensity of the energy we use in our homes, the price and availability of different modes of transport and the relative price and carbon intensity of the goods and services that we buy… So the critical issue is not simply our behaviour, but the impact of our activism, behaviour and attitudes on political action. (Hale, 2008: 12)

Of these three mechanisms by which public influence is brought to bear on governments, Hales suggests that 'political mobilisation is the most critical'.

It is therefore crucially important to examine the effect of public campaigns aimed at encouraging individuals to modify their behaviour in simple ways that serve to reduce personal environmental impact: to what extent do such campaigns contribute to building public acceptance of, and demand for, far-reaching government interventions?

These campaigns are ubiquitous, so it is unfair to single out particular examples – indeed, WWF has itself at times relied tacitly upon such strategies in its own campaigning. Nonetheless, it is helpful to provide a specific instance of the approach that we are critiquing. Take the Mayor of London's online advice on climate change. Under the heading 'do your bit', it is suggested:

If we are to reduce carbon emissions to levels that do not threaten catastrophic climate change, then people in the richer parts of the world like the UK have to live more sustainably. This doesn't need to be painful it just means we need to be less wasteful. You can help London and the world tackle climate change by taking a few simple steps.[1]

1. See: http://tinyurl.com/732kea (accessed on 21 January, 2009).

The webpage then proceeds to list what these simple steps might be – turning off your computer monitor at lunchtime or when you leave work, printing double-sided, using a glass instead of a plastic cup, avoiding use of standby. (Other suggestions, such as 'avoid air travel' or 'leaving your car at home' are more difficult – and more environmentally significant).

What is often overlooked is the fact that the direct additive impact of large numbers of individuals changing their behaviour in ways that lead to small reductions in their personal environmental impacts will be a small reduction in overall environmental impact. As the physicist David McKay writes in his book *Sustainable Energy – without the hot air*:

Have no illusions. To achieve our goal of getting off fossil fuels, these reductions in demand and increases in supply [of renewables] must be big*. 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. (McKay, 2009: 114,* emphasis in original*).*

This is not necessarily to discount such small changes as irrelevant. But if governments and environmental organisations are to persist in campaigning for individuals to adopt behaviour with small environmental impacts, at a time when fundamental changes in behaviour are urgently needed, this must be because there are good grounds to expect that these simple behavioural changes will lead to more far-reaching and environmentally significant changes. In particular, there must be grounds for believing that they will help create political space and pressure for decision-makers to act in new and ambitious ways.

The insistence that simple and painless steps can lead to the adoption of more ambitious behaviours is based on an effect which social psychologists call 'positive spillover'. This is said to occur when adoption of a particular behaviour increases the motivation for an individual to adopt other, related behaviours. These might be behaviours which serve to reduce an individual's personal ecological footprint, or those which help to create the political space and pressure for new government intervention.

Of particular importance for environmental campaigning is the related assertion that small pro-environmental behaviours can spillover into motivating *more ambitious* and environmentally significant behaviours. Thus, it is suggested, individuals can be ushered onto a 'virtuous escalator', as one pro-environmental behavioural choice leads to another potentially more significant choice. This approach, of 'hooking' individuals with a simple request in order to encourage them to subsequently accept a more difficult request, is called the 'foot-in-the-door' technique.

Environmental organisations, government and business often rely – either explicitly or implicitly – on positive spillover strategies, and particularly foot-in-the-door techniques, in attempts to drive pro-environmental behavioural change. So, for example, one report based upon extensive consultation with environmental campaigners recommends that environmental organisations start 'people off with easy actions with obvious paybacks or pleasant effects that fit into existing routines, before building up to the more difficult ones' (Hounsham, 2006: 143). The environmental communications consultancy, Futerra, lists 'a host of proven tactics for behaviour change'. Under a heading 'Salesman Tricks'*,* it urges the use of foot-in-the-door:[2]

Get someone to do something small and then introduce another larger action once the small one is completed. The move upwards won't just happen on its own: communications are needed to link each rung of the ladder. (Futerra, 2006: 10)

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2. Elsewhere in the Futerra report, the reverse strategy is proposed: 'Small behaviours don't automatically lead to bigger ones, but big and socially visible ones can lead to smaller ones. Fitting an energy saving light bulb won't convince people to buy a wind turbine, but a wind turbine on their roof may encourage them to buy the bulb.' (Futerra, 2006: 12). This seems more likely, as we discuss in Section 4.2.4.

The UK government's Department for Environment, Food and Rural Affairs (Defra) recommend that '[w]e need to promote a range of behaviours as entry points in helping different groups to make their lifestyles more sustainable – including catalytic (or "wedge") behaviours if identified through research' (Defra, 2008: 22).[3] In the same report, the Department seems to accept as inevitable that foreseeable changes in behaviour will have little fundamental effect on people's lifestyles: 'most of our consumer research points to the need for pro-environmental behaviours to fit within people's current lifestyle, even if one might aim for more fundamental shifts over the longer term' (Defra, 2008: 18).

To be clear: in failing to respond properly to today's environmental challenges, governments are guilty of capitulating their leadership responsibility – but the lack of public pressure for ambitious new government interventions cannot be seen as an excuse for this failure. In the light of this regrettable government timidity, therefore, it is crucial that environmental organisations find more effective ways to generate and mobilise public pressure for change.

This report examines whether the current enthusiasm for positive spillover as a strategy for driving the emergence of new high-impact social norms and government interventions is warranted on the basis of the evidence from empirical research. It opens, in Section 2, by exploring some of the key aspects of spillover as a strategy to motivate pro-environmental behaviour. Section 3 examines theories and experimental evidence about why spillover may work under some circumstances. Section 4 then examines the factors that may influence whether or not spillover does actually occur, drawing conclusions to help design environmental communications and campaigns. Section 5 reflects further on the possible role of spillover in building public acquiescence in policy interventions, thus helping to create political space for committed policy-makers to act more ambitiously.

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2. Defra does not elaborate on the relative difficulty of such 'catalytic behaviours', so it is not clear that they are referring to 'simple and painless' steps here. At the time of writing, Defra had yet to identify what such putative 'catalytic behaviours' might be (*pers. comm.*, Defra, 15 December 2008).

2. Preliminary considerations

There are several important aspects to our discussion of spillover: a distinction between positive and negative spillover; a distinction between spillover into behaviours of similar difficulty and spillover into more ambitious behaviours; and a concern about whether the reasons used to motivate an initial behavioural change influence the likelihood of spillover occurring. But first it is important to develop an understanding of the range of behavioural changes that we may be seeking to create.

2.1 Types of behaviour

This report will discuss several different types of pro-environmental behaviour, and it is important that we find some way of grouping these. The classification presented below follows that of Stern *et al*. (1999). This report will refer to four basic groupings of pro-environmental behaviour:

- **Personal or private-sphere behaviour change** – for example, consumer choices (changing to a renewable electricity supplier, or buying more efficient appliances);
- **passive acceptance of public policies that may depart from the promotion of immediate self-interest** – for example, voting for a political party that has a policy of increasing environmental taxation or regulation;
- **low-commitment active citizenship** – political activities that are not high-profile, and do not present significant risks to those engaging in these behaviours (perhaps writing letters to political decision-makers, or contributing financially to pressure groups);
- **committed public activism** – participation in demonstrations or direct involvement with pressure groups.

Most work on spillover has focused on personal or private-sphere behaviour change. But it is clear that in engaging huge and urgent challenges such as climate change, the environment movement needs to be more effective at motivating behaviours further down this list. Drawing on the evidence from studies in private-sphere behaviour change, this report attempts to draw some conclusions about approaches to achieving higher levels of public acceptance of government intervention, or motivating active political engagement.

2.2 Positive and negative spillover

Spillover may be positive – in which case adoption of a particular pro-environmental behaviour is found to increase a person's inclination to engage in another pro-environmental behaviour. But it may also be negative, in which case the reverse effect is observed – in adopting a particular pro-environmental behaviour, the prospect of an individual adopting another such behaviour recedes. Clearly, from an environmental perspective, our interest is to identify ways in which to maximise the prospects of positive spillover occurring, and to minimise the prospects of negative spillover.

2.3 Foot-in-the-door effect

The foot-in-the-door effect is one particular instance of positive spillover. Positive spillover from one simple, and perhaps environmentally fairly insignificant, behaviour to another is one thing; positive spillover from simple behaviours

into more difficult, but perhaps also more environmentally significant, behaviours is another. Early results with foot-in-the-door techniques have led to enthusiasm that, by encouraging individuals to adopt simple pro-environmental behavioural changes, they can be led into undertaking more ambitious and significant behavioural shifts. Foot-in-the-door strategies are therefore of particular interest to environmental campaigners. However, as we will see, there are important caveats to this result.

2.4 Reasons for behavioural change

As we will see, the *reasons* to which campaigns for behaviour change appeal are of critical importance. Campaigns might appeal to environmental reasons for adopting a behaviour, self-interested reasons (e.g. social status or financial savings) or – perhaps most often – a combination of several possible motivations (e.g. the UK government's 'Act on CO_2' campaign, which highlights both financial and environmental imperatives for simple domestic energy-saving measures).

Whether or not consistency is achieved in the reasons used for motivating change is also crucially important. For example, some approaches may seek to encourage individuals to adopt an initial and simple behavioural change on the basis of cost-savings, then seek to build on this by encouraging individuals to adopt subsequent (and perhaps more ambitious) behavioural changes on environmental grounds. A sustainability spokesperson at the retail company Tesco, for example, says, 'I do believe that by talking to our customers about how much money you can save by going green, we have opened a channel to discuss bigger actions to reduce their carbon footprint'. (Tesco, *pers. comm*.)

One key question that this report seeks to address is therefore: do the reasons that are given (or the values that are appealed to) in the course of encouraging a pro-environmental behavioural change affect the likelihood of promoting positive spillover into other behaviours?

2.5 When spillover is not the priority

It should be emphasised that there may be occasions where achieving positive spillover will not be of central importance to an environmental campaign.

This will be the case particularly where a pro-environmental behavioural change is highly significant in its own right. For example, installing loft insulation is a significant factor in reducing an individual's environmental footprint. It may be that, in campaigning to encourage individuals to install such insulation, it is decided to optimise the frequency of adoption of this particular behaviour, even if this entails compromising the prospects for positive spillover into other behaviours. However, there may be important costs associated with such a strategy – and campaigners should be fully aware of what these could be. (Pursuing the example of loft insulation further, we discuss some of these caveats in Section 4.2.1.)

3. An overview of empirical evidence on spillover

The empirical evidence for the efficacy of approaches to creating positive spillover is highly contested. While it has been suggested that pro-environmental conduct has a tendency to spillover from one behaviour to another (Thøgersen, 1999), some researchers have argued that when people engage in pro-environmental behaviour (perhaps a simple and painless step), they often use this to justify not doing other (perhaps more environmentally significant) things (Diekmann & Preisendörfer, 1998; Schahn, 1993).

Yet other researchers emphasise the uniqueness of every pro-environmental behaviour and downplay the possibility that pro-environmental conduct in one area will have any implications – whether positive or negative – for the likelihood of acting pro-environmentally in different areas (McKenzie-Mohr *et al*., 1995; Pickett *et al.,* 1993).

Several psychological mechanisms have been suggested for spillover, and there are theoretical reasons and empirical evidence supporting both positive and negative spillover between pro-environmental behaviours. The evidence for positive spillover, at least between behaviours of comparable ease, seems strong. But there are a number of factors which militate against spillover operating to lead individuals who are engaging in 'simple and painless' pro-environmental behaviour up a 'virtuous escalator', thereby leading them to engage in more difficult (and perhaps more environmentally significant) behaviours.

The co-occurrence of both positive and negative spillover phenomena may be one of the reasons why empirical research indicates that the process of developing a generalised pro-environmental consumption pattern is so slow (Thøgersen & Ölander, 2003). It also seems that there are a number of factors which limit the spillover phenomenon to a more narrow range of behaviours and a subset of the population, rather than all behaviours and

everyone. The cross-sectional studies suggest that certain value priorities or norms are a prerequisite for spillover, implying that this may be limited to a subset of the population – those who hold these values or norms (at least in the short run). These factors are considered further in Section 4.

3.1 Spillover and self-perception theory

According to self-perception theory (Bem, 1972), people use their own behaviour as cues to their internal dispositions, in much the same way as we infer another person's attitudes from observing his or her behaviour. Scott (1977) derived a spillover hypothesis from this theory. It is suggested that engaging in a particular behaviour may have one or more effects: first, the individual's attitude towards performing the specific behaviour in question may change (Holland *et al*., 2002b). For example, someone who initially had no disposition to recycling their refuse may, if they can be persuaded to try it, adjust their attitude towards recycling based on the fact that they recycle. In this case, a behaviour change leads to an attitude change, which may increase the likelihood that the person repeats the behaviour in the future.

Second, performing a pro-environmental behaviour may activate a general disposition

(e.g. pro-environmental values) held by the actor, which may therefore be more likely to influence future behaviour (Cornelissen *et al.*, 2008). For example, if an individual recycles their refuse, this action in itself may lead them to think of themselves as the kind of person 'who cares for the environment'. They may therefore be left more positively predisposed to other pro-environmental behaviours.

Whereas the first mechanism can explain *persistence* in performing a specific pro-environmental behaviour, the second can account for *spillover* between pro-environmental behaviours. Of course, these responses are not mutually exclusive – they may occur together.

The self-perception explanation of spillover phenomena is commonly tested in the foot-in-the-door paradigm (Freedman & Fraser, 1966). Consistent with the hypothesis that performing a pro-social behaviour activates a general internal disposition, it has been repeatedly demonstrated that if a person has agreed to a small request (e.g. to post a pro-recycling sign in the window), then, at least under some circumstances, he or she is more likely to later agree to another bigger or more costly request (e.g. volunteer time to assist with a recycling campaign) (Scott, 1977). However, there are important caveats to be added to this conclusion, some of which will be discussed below (Burger, 1999).

Intervention or manipulation by an outside agent (e.g. as a result of an environmental campaign) is not a prerequisite for activating an internal pro-environmental disposition or making a pro-environmental goal more salient in the individual's mind. Performing a goal-directed behaviour, in the absence of any external encouragement, makes the supporting attitudes more accessible from memory and therefore more predictive of behaviour (Glasman & Albarracín, 2006; Knussen *et al.*, 2004). In general, deliberate action to reach a goal (pro-environmental or not) is likely to increase the salience of the goal in the mind of the actor.

Thus, psychological theory (including self-perception theory) would suggest that the more salient a goal, the more likely it is that individuals will notice the relevance of their other everyday behaviours to the same goal, thus increasing the likelihood that they will act in a goal-consistent way in these areas as well (Ratneshwar, *et al.* 2001). For example, experimental research has shown that the priming of pro-environmental values enhances attention to, and the weight of information related to, these values and thereby the likelihood of pro-environmental consumer choices (Verplanken & Holland, 2002). Furthermore, survey-based research has documented that positive correlations between pro-environmental behaviours can be accounted for by their common root in broad pro-environmental goals and values (Thøgersen & Ölander, 2006). Together, these results suggest that the activation of general pro-environmental values is a mediator of the spillover of pro-environmental behaviour. The values used to justify an appeal for an initial behavioural change (and therefore also the reasons suggested for performing the behaviour) are therefore crucially important – and will be returned to below (see Section 4.1).

3.2   Spillover and cognitive dissonance

Other 'consistency theories' (Abelson, 1983) have been brought to bear on the spillover phenomenon, including Festinger's (1957) cognitive dissonance theory. It has been suggested that, at least under some circumstances, people feel it is inconsistent to behave in an environmentally responsible way in one area while refraining from doing so in another area and, further, that this inconsistency produces an unpleasant 'affect' (or 'arousal') called 'cognitive dissonance' (Thøgersen, 2004). Cognitive dissonance is only elicited if the inconsistent behaviours are chosen freely. Moreover, not all inconsistencies

are perceived as equally important, and unimportant inconsistencies do not usually produce cognitive dissonance. An inconsistency is 'important' if it violates a key element of a person's self-concept, questioning that person's competence, morality or reliability (Dickerson *et al.*, 1992). Finally, the more different the two behaviours, the easier it is to justify (to oneself and to others) behaving in a different way. The more different two behaviours are, the less likely it is that it will be perceived as inconsistent to behave in an environmentally responsible way in one, but not in the other area (Thøgersen, 2004).

Cognitive dissonance (and perhaps even the *anticipation* of cognitive dissonance) is uncomfortable: people are motivated to do something to reduce it. There are a number of ways dissonance can be reduced. Unfortunately, striving to achieve greater consistency by increasing one's pro-environmental behaviour is only one of several possible responses: another may be to abandon the existing pro-environmental behaviours. (This might be expressed, for example, as an individual asking, 'what's the point in taking the bus to the shops on a Saturday morning and leaving my car at home when I drive 30 miles to work each day during the week?'). The theory predicts that increasing one's pro-environmental behaviour will be the preferred option only if there are no other easier ways of reducing cognitive dissonance.

In the example given above, it may be easier for the individual to begin taking the car to the local shops than to contemplate commuting to work by public transport. Cognitive dissonance may operate to encourage spillover between behaviours of comparable 'difficulty'. But a more environmentally significant behavioural change (e.g. commuting to work by public transport) will often be more difficult to make, while a less environmentally significant change (e.g. taking the bus to the local shops on a Saturday) is more easily dismissed as being of little importance. So it seems that cognitive

dissonance will be unlikely, on the whole, to lead people from 'simple and painless' steps to more environmentally significant behaviours, where these are more difficult.

When engaging in pro-environmental behaviour is an important element in a person's self-concept, abandoning the 'simple and painless' behaviour may be perceived as very difficult. It has been shown empirically that the degree to which people act consistently across pairs of pro-environmental behaviours depends upon how morally important it is for them to act in an environmentally responsible way (Thøgersen, 2004). This suggests that cognitive dissonance mainly leads to behavioural spillover when a person feels it is morally important to act in an environmentally responsible way.

For people with strong pro-environmental values and norms, the desire to avoid behavioural inconsistency (and cognitive dissonance) is more likely to lead to positive spillover – as opposed to leading them to abandon those pro-environmental behaviours that have already been adopted. (This is clear – in the example given above, an individual with a strong sense of the moral imperative to make better use of public transport is less likely to abandon their bus ride to the shops at the weekend and take the car instead, in seeking to relieve the cognitive dissonance that they experience.) It seems that the *values* underpinning the initial motivation for pro-environmental behaviour are crucially important in influencing whether or not spillover occurs (see Section 3.1).

It has been suggested that people who experience cognitive dissonance because of environmentally harmful behaviours that are difficult or costly to change (e.g. taking flights, eating meat or joining political demonstrations) may engage in 'simple and painless' pro-environmental behaviour as a means to relieve the discomfort that this creates (Bratt, 1999). This type of self-justification (Holland *et al.*, 2002) is based on the general acceptance of a 'contribution ethic', something which we will

return to in Section 3.4.

Consistent with the proposition that 'simple and painless' steps are seen to justify other more environmentally damaging behaviours, Bratt (1999) found a positive relationship between car driving and people's acceptance of the claim that car driving is justified when you recycle your waste. This suggests that doing 'simple and painless' things makes it easier for people to refuse to adopt more difficult and environmentally significant behavioural changes. One can further speculate that the 'excuse' provided by adopting 'simple and painless' pro-environmental behavioural choices may well be strengthened if environmental communications or campaigns serve to exaggerate the environmental benefits of these small steps, or if these behaviours are advocated by actors with high levels of environmental credibility (e.g. environmental NGOs or government environment ministries).

Another important result, emerging from Bratt's (1999) study, raises questions about the practical importance of the 'simple and painless steps as justification for more damaging behaviour' phenomenon. Survey participants with more positive general environmental attitudes were less willing to accept the claim that recycling justifies car driving. The justification-attitude relationship was actually three times as strong as the justification-behaviour relationship. This means that the justification effect only dominated among people with relatively unfavourable environmental attitudes. That is, if an individual has a fairly negative attitude to the environment, then they are more likely to justify their car-driving on the basis that they recycle.

However, it could be argued that people with a more negative attitude to the environment will not be disposed towards pro-environmental behaviour anyway. It therefore seems unlikely that, if their exposure to campaigns to adopt 'simple and painless' behavioural changes is reduced, they would be any more likely to perform more difficult and costly behaviours.

It seems much more likely that they would find other excuses, aside from having already adopted the easy steps, for not performing the more difficult and costly pro-environmental behaviours (Van Raaij, 1995).

Recent research suggests that people also differ in personality in ways that influence their general tolerance for inconsistency or their preference for consistency (Cialdini *et al.*, 1995). For example, there is at least one study reporting that the foot-in-the-door effect is contingent on the individual having a high preference for consistency (Guadagno *et al.*, 2001). There is evidence that preference for consistency increases with age (Brown *et al.*, 2005). Spillover arising from cognitive dissonance may therefore be more prevalent in older people.

3.3 Spillover and knowledge or skills acquisition

A completely different explanation for spillover is that, when acting in a pro-environmental way, individuals may acquire knowledge or learn skills that make the adoption of other pro-environmental behaviours easier (De Young, 2000; Thøgersen, 1999). For example, one study found that the adoption of a new eco-label (the MSC label for sustainable fisheries) depended on the extent to which the consumer used other, pre-existing eco-labels, after motivational influences captured by the intention to buy sustainable fish products had been controlled (Thøgersen *et al.,* 2008). A likely explanation is that consumers gradually build knowledge and a routine about eco-labels that makes the adoption of a new eco-label easier. However, one may speculate that the likelihood of spillover due to such learning processes decreases rapidly with increasing dissimilarity of behaviours.

In addition to task-related knowledge and skills, acting in a pro-environmental way may facilitate learning about the character of

environmental problems – both the specific problems relevant to that particular behaviour, but also, possibly, more general environmental challenges. In this way, pro-environmental behaviour may lead to an increase in environmental concern, which then increases the likelihood that the individual will engage in other pro-environmental behaviours (Kals *et al.*, 1999; Maiteny, 2002). Note, though, that the track record of increased awareness of environmental problems leading to pro-environmental behaviour change is notoriously poor.

3.4   Resting on one's laurels

It has been suggested that environmentally responsible behaviour is usually based on a contribution ethic (Guagnano *et al.*, 1994; Kahneman *et al.*, 1993). Among other things, a contribution ethic implies that refraining from performing a specific pro-environmental behaviour is justified if one is already 'playing one's part' in other ways – leading one to 'rest on one's laurels'. For example, one study found that, after controlling for the strength of an individual's personal norms about reducing waste, people felt less obliged to do one specific thing (i.e. consider the waste-consequences of their packaging choices when shopping) the more they did something else to address the problem (i.e. sort household waste for recycling) (Thøgersen, 1999).[4]

Since most people do easy and cheap things for the environment before difficult and expensive things (Diekmann & Preisendörfer, 1998; Kaiser, 1998), they may in practice justify not doing the more difficult and costly – and usually more important – things because they do other things, which happen to be

not only easy and cheap, but also relatively inconsequential (Van Raaij, 1995).

Unfortunately, the tendency to do too little for the environment is amplified by healthy individuals' well documented tendency to interpret evidence in a self-serving manner, which leads people to exaggerate their contribution to environmental protection (Pieters *et al.*, 1998). On the whole, people tend to believe that the action they are already taking for the environment is of greater significance than it actually is. When combined, a contribution ethic and a self-serving bias seems particularly likely to frustrate movement from the small and easy to more environmentally significant but also more difficult behaviours.

Environmental communications that diminish the importance of some behavioural changes relative to others may operate to reinforce the perception that actions to address environmental challenges are in some way 'morally fungible' – that having done one thing, a person can feel morally excused from doing another. For example, Martin Wright, editor of the UK environment magazine *Green Futures*, 'ranks [the need to protect] forests over flight guilt' in attempts to drive down emissions (Wright, 2008). Similarly, John Beddington, the UK government's chief scientific adviser, under a headline 'old fashioned loft insulation is more important than stopping flying', recently wrote:

Where should we put in most *effort? The conventional wisdom says it's all about cars, planes, and wind farms... But air travel contributes a few per cent to global emissions. Meanwhile activities in British homes and offices make up more than half. If we really want to sustain the planet, we must* first *fix the buildings where we live, work and play. (Beddington, 2009,* emphasis added*).*

4. In discussing some of the effects of cognitive dissonance, in Section 3.2, it was suggested that people who engage in environmentally harmful behaviours that are difficult to change may also engage in simple and painless pro-environmental behaviour. This, it was argued, may present a means of minimising the cognitive dissonance that arises from an awareness of the disparity between a person's expectations of their own ethical behaviour and their actual behaviour. In this section, we discuss a broader tendency that has a similar effect. If people reason that their goal should be to make a fair contribution to addressing an environmental problem, this serves as a guide to the degree of effort they invest in the course of pursuing particular pro-environmental behaviours. Under these circumstances, pro-environmental behaviour isn't motivated by an attempt to relieve cognitive dissonance, so much as to 'play one's part' fairly.

Aside from Beddington being factually wrong (activities in British homes and offices do not make up more than half of global emissions), this stance may serve to help cement the perception that, if I have insulated my loft, then I should feel morally justified in flying. (In fact, aviation is projected to become a critically important source of greenhouse gas emissions.[5])

Unfortunately, the problem of 'resting on one's laurels' is greater than that of individual citizens feeling that they have 'done their bit' by adopting simple and painless private-sphere behavioural changes. Some politicians conclude that they have, in turn, 'done their bit' as policy-makers and legislators by encouraging individuals to adopt simple and environmentally insignificant behavioural changes. Hence, non-governmental organisations campaigning for simple and painless steps run a double risk – the risk of advocating an approach that probably does not work, and the additional risk of lending credibility to politicians who feel they have done enough by urging the public to adopt simple behavioural changes.

5. When asked recently which sectors would have to do more in order to meet the UK government's target of an 80% cut in emissions by 2050, Lord Turner (chair of the UK government's Committee on Climate change) said that aviation was aiming to keep its emissions flat by 2050, which would mean that the rest of the economy would have to make cuts of 90%. (DeHavilland Report, 4 February, 2009). In fact, the UK government's Department for Transport predicts that aviation will account for up to 54% of UK CO2 emissions by 2050 (DfT, 2009). Other forecasters predict that this proportion will be far higher. For example, in a report published in September 2006, Cairns and Newson (2006) at the Environmental Change Institute at the University of Oxford, write, 'Even at the lower end of the forecast range, carbon dioxide emissions from aviation are set to reach 17 million tonnes of carbon (MtC) by 2050. The higher end of the range is 44 MtC. Meanwhile, the UK is attempting to limit the carbon emissions of all its activities to 65 MtC by this date. This means that, in order to offset aviation's emissions, all other sectors of the UK economy would need to reduce their emissions by 71%-87% instead of the currently planned 60% from 1990 levels. There is no sign that this can or will happen: the existing 60% target is already extremely challenging'. (p.4). Note that, since this report was published, the target for UK emissions reductions has been increased to 80% of 1990 levels by 2050.

4. Implications for environmental communications and campaigns

4.1 The limitations of spillover

As indicated in the foregoing, positive spillover is only likely to occur under particular circumstances, many of which will be difficult to control. As we have also pointed out, co-occurrence of both positive and negative spillover phenomena may be one of the reasons why the generalisation of a sustainable consumption pattern is proving to be such a slow process (Thøgersen & Ölander, 2003). Encouraging people to move from simple domestic energy-efficiency measures towards adopting the ambitious changes that are needed, and supporting the government interventions necessary to drive these, is not straightforward. It would be a mistake therefore to rely on spillover from 'simple and painless' steps to create the rapid and often difficult behavioural changes that will be needed to address global challenges such as climate change.

Our concern is that, at best, many campaigns for small and environmentally insignificant behavioural changes are tacitly justified through an unexamined assumption that these will contribute to delivery on more ambitious and environmentally relevant changes. At worst, we suspect that in many cases such campaigns are embarked upon without any reflection on the contribution that they may, or may not, make to achieving the ambitious changes that are needed. Environmental campaigners should be clear with themselves about whether a campaign is aimed at delivering a specific behavioural change (the actual focus of the campaign) or whether it is aimed at helping to elicit a wider set of behavioural changes (through positive spillover effects).

This discipline would oblige campaigners to be clear about two things: first, the inadequacy of responses to environmental problems that rely upon widespread adoption of marginal reductions in individual carbon footprint; and second, the challenges facing them if they are to use such campaigns as vehicles for promoting more ambitious changes.

But we also have an additional concern, which we explore in more depth in Section 5. We worry that campaigns for simple and painless pro-environmental behaviour changes may also serve to promote the perception that today's environmental challenges can be – and should therefore be – collectively addressed through marginal changes that leave current lifestyles essentially unchanged.

It is possible that campaigns which emphasise the value of small and objectively insignificant private-sphere behavioural changes will serve to harden the perception that the proper response to environmental challenges is to rely entirely upon the choices that individuals make, working with their self-interest (their financial interest or their freedom of choice as consumers, for example). Individuals who are encouraged to believe that the proper response to climate change is to choose a different (and more efficient) model of car, or to seek financial savings from energy-efficiency measures, may be more resistant to urgently needed government interventions that will serve to reinforce positive consumer choice, or shift taxation to help incentivise more sustainable behaviour.

4.2 Optimising the possibility of spillover

A number of factors may serve either to amplify or reduce the spillover of pro-environmental behaviour. These are discussed more fully in this section, where specific suggestions for the design of environmental campaigns are explored. It should be emphasised, however, that only a few of these suggestions have been

subject to proper empirical investigation. Until they are substantiated through more research, the suggestions that follow should be treated with some caution.

4.2.1 Be clear about the environmental reasons for behaviour change

One recurrent theme in the analysis above is that positive spillover will vary with the strength of a person's pro-environmental values and norms. Hence, in addition to the 'direct' behavioural impact of communications that increase the prevalence of these values and norms, it is likely that such policies will also amplify positive spillover effects. This might be referred to as 'the double dividend of getting clarity on values and goals'![6]

Spillover hypotheses derived from Bem's (1972) self-perception theory are based on the assumption that performing a pro-environmental behaviour activates the person's pro-environmental disposition and makes pro-environmental values and norms more salient (see Section 3.1). For this mechanism to lead to spillover, the person needs to have a pro-environmental disposition of sufficient strength. Consistent with this inference, spillover between different behaviour categories has been found to depend on the strength of the person's pro-environmental values (Thøgersen & Ölander, 2003). Moreover, one study found that the tendency to behave consistently across pairs of pro-environmental behaviours depends on how morally important it is for the person to act in an environmentally responsible way (Thøgersen, 2004). Together, these studies suggest that positive spillover of pro-environmental behaviour is contingent on sufficiently strong pro-environmental values or norms.

This perspective is further supported by evidence on cognitive dissonance (see Section 3.2, above). Cognitive dissonance is more likely to motivate an individual to extend pro-environmental behaviour, rather than reduce this, in the context of a strong set of pro-environmental values and norms.

Consider a campaign to encourage home-owners to install loft insulation. Suppose this campaign draws attention to the financial benefits, and as a result persuades some individuals to go to the trouble and capital expense of installing this insulation. Having done so, they may be less likely to support a proposal to use public funds to assist other home-owners to install insulation (such a policy proposal was recently suggested by the Conservative Party in the UK – see King, 2009). They may feel that, having borne the costs of loft insulation themselves, they shouldn't now be expected, as taxpayers, to support other home-owners who will derive the same financial savings from insulation but with lower capital expenditure.

If, on the other hand, the initial campaign was premised on an environmental imperative – urging home-owners to install loft insulation in order to reduce their carbon emissions – their response to the new government proposal may be different. They are now perhaps more likely to feel aggrieved that, while they have gone to the trouble and expense of installing insulation ('doing their bit' to help stabilise the climate), many other home-owners have yet to do so, thereby undermining their efforts. They are perhaps likely to be more supportive, therefore, of a policy aimed at incentivising other home-owners to follow suit.

This is not to argue that appeal to self-interest or social status can't be effective. Urging people to adopt simple domestic energy-

6. There is a large body of experimental work that serves to demonstrate the relevance of the *goals* used to frame a particular behaviour for determining the level of motivation an individual experiences to engage in that behaviour. Appeals to extrinsic goals (financial benefit, for example) tend to lead to lower persistence in a new behaviour than appeals to intrinsic values (a sense of connectedness to the natural world, or an empathy for people in a drought-stricken country, for example). The relative benefit of appealing to intrinsic as opposed to extrinsic goals increases for more difficult behavioural choices. These results, drawn from studies in 'self-determination theory' have important implications for the way in which environmental campaigns are framed (the goals to which they appeal). But these studies, which do not relate directly to spillover, fall outside the scope of this report. See WWF (2008) for a fuller account of the results of studies on the quality of motivation achieved through appeal to different goals.

efficiency measures in order to save money, or to send an automatically-generated email to their MP to petition against a new road-building scheme on the grounds of its impact on local house prices, *may* be the most effective way of motivating the greatest number of people to adopt *these particular* behaviours. But their motivation to engage in pro-environmental private-sphere behaviours in general, or to become involved in committed public activism, seems less likely to be sustained than if they had adopted them in pursuit of a set of 'intrinsic' goals.

4.2.2 Make explicit the connections between different pro-environmental behaviours

Studies have found that correlations between pairs of pro-environmental behaviour increase with the similarity (Bratt, 1999) or with the perceived similarity (Thøgersen, 2004) of the two behaviours. This result has also been observed in foot-in-the-door studies, where stronger effects are usually found when the two requests are similar rather than dissimilar (Burger, 1999). This effect is most easily understood in the framework of cognitive dissonance theory, assuming that the similarity of pairs of behaviour influences how inconsistent it is perceived to be to act in a pro-environmental way with regard to one but not the other. The similarity effect suggests that positive spillover is most likely between pairs of pro-environmental behaviours that are reasonably similar, or that are perceived as being reasonably similar.

But what constitutes 'reasonably similar' or 'reasonably dissimilar' behaviour here? Behaviours can be similar or dissimilar in many ways. Similarity may be judged with regard to objective characteristics of the behaviour (such as the time or place in which it is undertaken, tools or equipment used, or the specific actions performed). Behaviours may also be more or less similar in terms of the goal or goals being pursued. *Objective characteristics* are used to organise behaviours into *taxonomic categories*, whereas the *relationship towards a goal* is used to organise behaviours into *goal-derived categories*. It is commonly assumed that consumers use both taxonomic categories and goal-derived categories to structure their knowledge about the world (Hoyer & MacInnis, 2006).

Little research has been done into which kind of similarity judgment is most likely to produce spillover. What research that does exist suggests that taxonomic categories are important: that is, behaviours within the same taxonomic categories (the time and place of the behaviour, the skills employed, etc.) tend to be more strongly correlated than behaviours within different taxonomic categories (e.g., Stern, *et al.*, 1999; Thøgersen & Ölander, 2001). This evidence suggests that objective characteristics of the behaviour matter for consumers' similarity judgment. However, the effect of a shared goal (e.g. environmental protection) has not been explored.

Irrespective of this lack of research, it seems safe to infer that environmental campaigns that make similarities between pro-environmental behaviours more salient are more likely to stimulate spillover. An exception arises in cases where actions are perceived as substitutes rather than as complementary ways to solve a problem. For example, one study found that careful source-separation and recycling is sometimes perceived as a substitute for waste prevention during shopping (choosing products with less packaging, for example): people tend to engage less in one the more they engage in the other behaviour (Thøgersen, 1999). With the exception of substitutes, communication that informs and educates people about the shared relevance of two actions for the same goal (i.e., solving an environmental problem) should facilitate spillover (cf. Ratneshwar *et al.*, 2001).

Campaigns that frame the imperatives in a non-environmental way do nothing to increase

the incidence of positive spillover. There are clearly many examples where the pursuit of financial self-interest or social status will not present incentives for pro-environmental behaviour (indeed, these things often diverge). In attempting to motivate a range of pro-environmental behaviours, it seems that it will be most effective to appeal either to environmental concern, or a set of values which are found to correlate with this (a sense of connection to nature, or concern for the welfare of future generations, for example). This also underscores that it is likely to be unhelpful to draw a distinction between the relative importance of different pro-environmental behaviours, denigrating those seen to be less significant (see Section 3.4 above).

4.2.3   Causal clarity: focus exclusively on the environmental benefits of a behaviour

If one is to develop a self-perception as an environmentally concerned individual, this is contingent upon past behaviour being *perceived* as pro-environmental, or, as social psychologists say, 'diagnostic of a pro-environmental disposition' (Cornelissen *et al.*, 2008). The 'diagnosticity' of behaviour in this regard depends on both its *causal clarity* and the *frequency of its occurrence*. This section highlights the need for causal clarity, and Section 4.2.4 highlights the relevance of frequency of occurrence.

Causal clarity refers to the ease with which an individual perceives a particular behaviour as being motivated by environmental concern. So, for example, an individual may petition their MP against the expansion of an airport in their locality either because they are worried about the impact on the financial value of their home, or because they are concerned about the global environmental impact of aviation growth.

Many environmentally relevant everyday behaviours are causally ambiguous in that they lead to both pro-environmental and private benefits (e.g. mitigating the global impacts of climate change *and* reducing aircraft noise in my locality; reducing water use *and* saving money). If an act can be attributed to more than one cause it is perceived as less diagnostic for inferring pro-environmental values and attitudes, and is less likely to lead to spillover into other pro-environmental behaviours.

However, it has been demonstrated that the perceived diagnosticity of ambiguous behaviours can be enhanced by framing (or labelling) these as reflective of a pro-environmental disposition. Research has found that the diagnosticity of a common behaviour can be increased by communication that emphasises its environmental benefits (Cornelissen, *et al.*, 2008). Such communication improves the impact of the behaviour on a person's self-concept, and therefore increases the likelihood of performing *other* pro-environmental behaviours. Many environmental campaigns currently deploy the opposite tactic in this regard – advocating the use of a wide range of imperatives for adopting a particular behavioural change. Often, for example, these focus on both the financial savings and the environmental benefits arising from energy-saving behaviours. Consider, for example, the UK government's 'Act on CO_2' campaign with television advertisements that emphasise the financial savings possible through simple energy-saving behaviours (such as switching a television standby mode off): 'simple actions reduce both fuel and CO_2 emissions'.[7]

Some additional evidence suggests that appeal to financial incentives to comply with a behavioural request may be particularly unhelpful if positive spillover is sought. Based on the self-perception theory of spillover, one might imagine that when individuals are *paid* to comply with the first request, this will disrupt

7. See: http://tinyurl.com/66otnp (accessed 21 January 2009).

their sense that they chose to comply because 'they like to support that type of cause' – rather, they will perhaps be left with the impression that they complied because they were financially rewarded. In fact, there is empirical evidence from foot-in-the-door studies that payment for compliance with the initial request does indeed leave individuals less disposed to comply with a subsequent request for behaviour, where no further payment is offered (Burger & Caldwell, 2003).

Although we are not aware of studies that examine this, it seems likely that individuals who are persuaded to adopt a specific pro-environmental behaviour in order to save money (e.g. change to energy-efficient light-bulbs *in order to save money*) will be less likely, as a result of this, to come to see themselves as 'people who engage in environmental behaviour', and will therefore be less likely to respond positively to a subsequent request to adopt a pro-environmental behavioural change that doesn't confer some direct financial benefit.

Overall, it seems probable that campaigns which combine several different reasons for adopting a behavioural change, and particularly those which appeal to financial incentives, will reduce the likelihood of positive spillover. Note, however, that campaigns which present a range of reasons for adopting a particular behaviour may be most effective in encouraging uptake of *that particular* behaviour. If the campaign is not intended to contribute to building motivation for engagement in a range of other pro-environmental behaviours, then causal clarity may not be so important (see Section 2.5).

4.2.4 Frequency of occurrence: Campaigns to adopt pro-environmental behaviours which have already reached a high degree of social normalisation will not provide a good basis for positive spillover

As outlined in Section 4.2.3, the 'diagnosticity' of behaviour, which has an important impact on the likelihood that this will lead to positive spillover, depends on both its *causal clarity* and the *frequency of its occurrence*. This section highlights the relevance of frequency of occurrence.

Behaviours which have become social norms (such as avoiding dropping litter, or recycling) are less diagnostic for inferring pro-environmental values and attitudes than less common behaviours (which may also be more difficult). Such behaviours are more likely to be taken for granted, and are therefore less likely to have an impact on an individual's self-perception, and less likely to lead to spillover. Of course, it is a good thing for pro-environment behaviours to become normalised! But if our concern is to achieve positive spillover into other behaviours, then normalised behaviours are not the best starting point.

Spillover based on self-perception is less likely to be induced by more prevalent, pro-environmental behaviours, which are often 'simple and painless', than by less common behaviours that are also often more difficult. The implication is that, in the course of campaigning for the adoption of behaviours which will spillover into other pro-environmental behaviours, it may be better to focus on less common (and perhaps more difficult) behavioural changes – even though it may be more difficult to motivate people to adopt these in the first place.

Providing information about what most other people do has been shown to have a substantial effect on individual behaviour (Goldstein *et al*., 2008; Schultz *et al*., 2008). This strategy is, of course, only useful when a majority of the target

population actually performs the desired
pro-environmental behaviour, which is often
not the case for the more difficult and often
more environmentally significant behaviours.
But where campaigns are aimed narrowly
at extending the uptake of behaviours that
are already ubiquitous (rather than achieving
spillover) this may be an important approach.
Even when performing the desired behaviour is
the exception rather than the rule, a modelling
approach, credibly portraying ordinary people
(e.g. in serial dramas) that succeed in making
major life changes, has shown promising results
in terms of empowering people to make difficult
behaviour changes (Bandura, 2006).

5. Simple and painless steps and aquiescence in political interventions

We have argued that encouraging individuals to adopt simple and painless private-sphere behaviour changes is unlikely to increase motivation for low-commitment active citizenship or committed public activism. But campaigns to encourage uptake of simple behaviour changes may nonetheless be important if these lead to greater public *acceptance* of government intervention (see our classification of different pro-environmental behaviours in Section 2.1). Indeed, Stern *et al.* argue that public support is 'one of the most important resources social movements mobilize in their efforts to overcome cultural inertia and the interests of powerful actors'. (1999: 81).

The argument that public acceptance of government intervention is of key importance arises from an analysis of the political process which suggests that, while the appetite often exists among political leaders and policy-makers for fundamental regulatory change, there is too little public acceptance of such change. According to this perspective, the primary reason for the inadequacy of government action on environmental challenges is the difficulty of achieving the acceptance of the electorate – rather than a government's failure to grasp the urgency and scale of environmental challenges, or the pressures and constraints imposed upon government by vested interests. Public acceptance of the need for radical policy interventions, it is argued, would serve to provide sympathetic policy-makers with the 'space' to pursue an ambitious legislative agenda.[8] It is certainly our experience that many non-governmental organisations attest privately to being urged by policy-makers

to 'make more noise' on a particular issue, in order to help create the political space for intervention. Some politicians even publicly ask non-governmental organisations to increase pressure,[9] although it has been suggested that such calls may represent a shrewd attempt to deflect blame for inaction, rather than reflecting a real frustration on the part of decision-makers at being constrained by a lack of electoral acceptability.

A recent IPSOS-MORI survey of more than 1,000 UK citizens found that 41% agreed with the statement 'I am worried the government, in taking action on climate change, will try to restrict the things that I want to do', as opposed to 29% who disagreed (IPSOS-MORI, 2008). While this survey found widespread acceptance of the need to move beyond recycling and turning off lights, and to look at transport patterns and purchasing decisions, only 13% of respondents thought that this should involve significant and radical lifestyle

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8. Of course, public activism and low-commitment active citizenship (see Section 2.1) will be helpful here as well. In the case of demands for a policy intervention that does not enjoy widespread political support from policy-makers, *both* public activism and passive acceptance will be necessary. Where that political support is forthcoming, however, it may be sufficient that public acceptance is established. Because passive acceptance will probably be easier to secure than public activism, some environmental campaigners choose to focus particularly on ways in which the former can be generated.

9. Ed Miliband, UK Secretary of State for Energy and Climate Change, recently said, 'When you think about all the big historic movements, from the suffragettes, to anti-apartheid, to sexual equality in the 1960s, all the big political movements had popular mobilisation… Maybe it's an odd thing for someone in government to say, but I just think there's a real opportunity and a need here'. (Quoted in *The Guardian*, 8 December 2008). See: http://tinyurl.com/6c6sjg (accessed 21 January, 2009).

changes. Another survey of UK citizens found strong public opposition to increasing the costs of flying or driving. Just 15% of respondents supported increasing the costs of flying (Anable *et al.*, 2006: 52) and only 6% supported doubling tax on petrol over the next 10 years (Anable *et al.*, 2006: 50). It indeed seems that there is little public appetite, at least in the UK, for government intervention to restrict some cherished freedoms.

It must therefore be asked: is passive acceptance of public policies that may entail material sacrifice improved if there is prior and widespread public adoption of small and painless private-sphere behaviours?

The evidence here is equivocal. On the one hand private-sphere pro-environmental behaviours have been found to correlate positively with support for pro-environmental policies (Stern *et al.*, 1999). But this doesn't in itself demonstrate that adoption of simple behavioural changes will help to develop support for environmental polices: individuals with a strong sense of environmental values may be more likely to adopt simple private-sphere behavioural changes *and* to express greater support for environmental policies. This result doesn't therefore establish a direct causal link between simple behavioural changes and support for policy intervention.

We are not aware of experimental work that has addressed this question directly. However, we are able to speculate on some factors that might moderate the influence of the adoption of small private-sphere behaviour change for the acceptability of government intervention.

5.1 The likely importance of the reasons for behaviour change

The reasons used to motivate pro-environmental behaviour are likely to be of critical importance if the longer-term aim is to build public support for new policies or regulatory intervention to further encourage

these behaviour changes.

Recall the example of campaigns to increase levels of loft insulation, discussed in Section 4.2.1. Here it was argued that premising such a campaign on the basis of financial savings may leave home-owners who have insulated their lofts less inclined to support a subsequent government proposal to use public funds to encourage wider use of loft insulation. Indeed, they might be more inclined to think that other home-owners should bear the costs of loft insulation personally, as they themselves had done. But if a home-owner insulated the loft in order to help mitigate climate change, that individual is probably more likely to feel frustration that others don't follow suit – and may be more supportive of initiatives for public grants to incentivise loft insulation.

We can extend this analysis by way of another hypothetical example. Consider a government campaign to encourage people to exchange their cars for smaller and more efficient vehicles, on the grounds that in doing so, they will save money on their fuel bills. In this example, focusing on the financial incentives for buying a more fuel-efficient car may help confirm the perception that individuals should act to ensure that their motoring is made as cheap as possible. This could serve to erode support for subsequent policies to increase taxation on fuel (something to which there is already widespread public resistance, as we have seen). Moreover, this hardening of opposition to increases in fuel prices may occur not just for those individuals who have been persuaded to buy a more efficient car as a result of the campaign – but also (a far greater number) of individuals who were exposed to the campaign communications but didn't act upon these.

In general, we can speculate that an individual who has experienced a degree of cost or inconvenience in the course of voluntarily adopting a pro-environmental behaviour for environmental reasons will be more likely to support government interventions to enforce

that behavioural change than will an individual who adopts a behavioural change for self-interested reasons.

5.2 The likely importance of framing in shaping dominant public values

The hypothetical example of the campaign to encourage people to buy more fuel-efficient cars introduces the importance of the way in which a campaign is framed. In this case, it was suggested that framing a campaign in terms of the financial savings accruing from running a more efficient car may harden resistance to subsequent attempts to increase taxation on private car use.

A review of the literature on framing is beyond the scope of this report. However, it has been persuasively argued that the way in which an issue is framed has an important impact on the acceptability of this to a particular audience. Such framing is important in two ways. First, and most obviously, it is important in order to present a policy-proposal in a way that is attractive, given an audience's values and modes of thought. Second, it is important in *contributing to determine* which values come to dominate public discourse and shape public opinion (see Brewer & Frisch, 2008 and Brewer & Lakoff, 2008). As Susan Bales, president of the Frameworks Institute, writes:

When frames are invigorated over time, they become chronically accessible. They rise out of the swamp of public thinking with reliable predictability. In fact, all you need is a very slight frame cue to get most Americans to tell you that government is too big, too bloated, too inefficient. (2008: 12)

We can see therefore that appeals for individuals to adopt simple voluntary energy-efficiency measures (e.g. switching to use of compact fluorescent light bulbs), may have more than one possible effect, *even when explicitly framed in environmental terms.* On the one hand, such campaigns may increase awareness of the environmental impact of incandescent bulbs, and therefore increase public support for government intervention to ban these bulbs. On the other hand, they may serve to reinforce the perception that environmental challenges can be adequately met through simple voluntary steps and that suggestions for more ambitious government intervention are disproportionate and unnecessary.[10]

We do not have the evidence base to reflect on the likely magnitude of these two effects. However, there are ways in which campaigns could be framed which would help to mitigate these possible negative impacts. One approach to this might be to situate simple steps in the context of a broader social engagement on addressing the more fundamental aspects of an environmental problem – drawing attention not just to the need to take steps ourselves, but also to the importance of holding our government accountable to ensure that it protects our environment.

In summary, this report does not deny that positive spillover may occur under some circumstances. But it does caution strongly against reliance upon positive spillover as a strategy for delivering ambitious environmental change. We believe that environmental communicators and campaigners should be clear with themselves about whether a campaign is aimed at delivering a specific behavioural change (the actual focus of the campaign) or whether it is aimed at helping to elicit a wider set of behavioural

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10. Certainly, as things stand, recent initiatives to remove incandescent light bulbs from shops in the UK did trigger the reaction, from some quarters, that governments should leave individual consumers to decide what light bulbs to buy, and drew the wrath of several newspapers: The Daily Mail, for example, ran a headline: 'Revolt! Robbed of their right to buy traditional light bulbs, millions are clearing the shelves of last supplies' (The Daily Mail, 7 January 2009, emphasis added).

changes (through positive spillover effects). This discipline would oblige those designing environmental campaigns to be clear about two things: first, the inadequacy of responses to environmental problems that rely upon widespread adoption of marginal reductions in individual carbon footprint; and second, the challenges facing them if they are to use such campaigns as vehicles for promoting more ambitious changes.

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