

# Understanding and influencing behaviours: a review of social research, economics and policy making in Defra

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A discussion paper bringing together the expertise of Defra economists and social researchers.



## Executive Summary

Behaviour change is the new 'buzz' phrase around government and, whilst it trips easily off the tongue, it refers to a complex set of issues. This short discussion paper summarises how analysis has informed our understanding of behaviours and how to influence them, and in turn, contributed to the development of policies that successfully help to shape behaviours (i.e. the actions of individuals, households, communities and businesses).

All policy development seeks behaviour change but the focus for this paper is about taking an analytical, holistic and systematic approach to influence different individuals, households and businesses. The premise for this paper is that the heart of the issue is not about 'behaviour change' but rather how translating a better understanding of behaviours directly into policy can influence change through the provision of evidence based, highly effective instruments.

Economics and social research, and the increasingly high-profile field of behavioural economics, work together to provide the analyses and tools required to ensure that any interventions proposed to influence behaviours are rooted in theory and are likely to achieve the desired outcomes without the costs falling disproportionately on any individuals or businesses. Economics provides both detailed analysis of the costs and benefits of proposed policy options and a set of economic approaches that can act as policy tools. Social research provides underpinning evidence on what can act on behaviours which can inform the range of interventions, such as shaping values through communication and fostering social norms.

This discussion paper draws on experience within Defra using a range of case studies to highlight how policy development is now embracing these concepts and taking practical steps to deliver 'change'. Whilst not an exhaustive review, the paper demonstrates how research and analysis is helping to understand behaviour, how this shapes our thinking about policy development and informs the choice of interventions adopted.

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### **Disclaimer:**

This discussion paper contains the views and interpretations of the main contributors and does not represent the view of Defra, either corporately or from individual policy areas referenced. Many of the examples represent developing areas of work and presenting within an analytical behaviours framework does not authoritatively summarise the current policy position. This paper has been issued as a draft discussion paper and we invite any views prior to finalising later this Spring. Comments to the authors should be forwarded to both Tim Everett ([Tim.Everett@defra.gsi.gov.uk](mailto:Tim.Everett@defra.gsi.gov.uk)) and Tony Pike ([Tony.Pike@defra.gsi.gov.uk](mailto:Tony.Pike@defra.gsi.gov.uk)).

## 1. Introduction

Seeking change from those behaving in a way that society thinks is not appropriate (for a variety of reasons) is frequently a key policy goal. Whether this is reducing behaviours that impose costs on others (pollution), or protecting individuals from behaviours that could harm themselves (unhealthy lifestyles), it is vital that government is able to enact policies that change these behaviours, without imposing undue or disproportionate burdens on individuals or sections of society.

‘Behaviour change’ is a convenient and widely-used term for an extraordinarily complex issue. It is not just about change, it is also about consolidating and re-enforcing the ‘good’ (towards a desired direction and sustained over time) as well as addressing the ‘bad’. Behaviours are, by their very nature, often entrenched with many barriers to change exacerbated by a lack of incentives. Barriers can include the existence of habitual actions, financial constraints, societal expectations or norms, life and family commitments or simply a lack of access to the facilities needed to enable positive action. Change relies on incentives and personal motivations and can include financial savings, social norms or just a ‘feel-good’ factor in taking positive action. Understanding and removing these barriers, and stimulating the correct incentives, can result in ‘change’.

In popular discourse, the term ‘behaviour change’ is often used to describe something much more specific. For example, the recent book *Nudge*<sup>1</sup> (by Thaler and Sunstein) focuses on ‘choice architecture’, whereby the framing, design and presentation of choices, and the default options behind these choices, can be altered to try and help individuals choose the optimal choice, regardless of the biases and bounded rationality they experience. Policies such as these – perceived as cheap to implement and ‘light touch’ – are often referred to as behaviour change policies under this more narrow understanding. Within Defra a much broader interpretation and approach is used.

The heterogeneity of individuals and groups within society, both in their preferences and motivations, mean that there will be different reactions to a policy change. Some policies may change behaviours without changing the underlying attitudes and motivations – for example, introducing a tax on a behaviour usually results in a reduction in that behaviour but if the tax is removed any behaviour change will not necessarily be sustained. Other policies may achieve this change through changing people’s preferences, for example through fostering social norms or influencing attitudes, although this typically requires policy investment over a sustained time. The time factor for change is critical and, for any given broader policy goal, there are a range of individual policy targets that can be impacted upon by an array of tools. All of this suggests that an array of policies may be required, over both the short and long term, in order to deliver ‘behaviour change’ across society, and that no one policy is likely to be able to achieve this.

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<sup>1</sup> Thaler and Sunstein (2008) *Nudge: Improving decisions about health, wealth and happiness*

Understanding and changing behaviours is complex, and economics (including behavioural economics) and social research can contribute to developing policies that take account of this complexity and successfully change behaviours. This paper takes an inclusive approach viewing a range of interventions as ‘behaviour change tools’ and illustrates a systematic and evidence-based approach (grounded in theory) to deciding what form of intervention works best for each target and over what timeframe. Defra’s approach to designing policy reflects this, with a ‘policy cycle’ framework that encourages the use of analysis at each stage. Examples are illustrated by the use of this policy cycle, which provides a common narrative of how policies are under-pinned by an understanding of the relevant behaviours and demonstrates how effective intervention options are chosen.

## **2. Underpinning theoretical background from economics and social research**

Traditionally, the focus for policies has been to change behaviour using external drivers – financial incentives (e.g. taxes, subsidies) and regulation (e.g. prohibiting certain actions, setting standards). However, incorporating a wider understanding of behaviour (both individual and societal) recognises the importance of intra- and inter-personal drivers and the points of influence. Financial and regulatory approaches will always be principal policy tools for driving change but the effectiveness of policy interventions is also dependent on reflecting, re-enforcing and shaping attitudes, motivations and norms within a community. An understanding of all these is critical for informing the parameters for modelling, policy appraisal, selecting the interventions and the evaluation of effects.

### **2.1 Economics, incentives and changing ‘rational’ behaviours**

Standard economic theory represents the starting point for understanding and modelling many aspects of human behaviour. Economics, at least at the microeconomic level, is essentially about how people make decisions and take choices. Therefore, it offers powerful tools to change behaviour, which are utilised often and effectively by Government.

The microeconomic understanding of behaviour (that is, the choices people make) is based on assumptions regarding the preferences that all individuals display. For example, it assumes that people prefer to have more of something good than less of it, and that these preferences are consistent. Each individual has a full set of these preferences which determine the choices they make to enable them to maximise their own utility or satisfaction. This is constrained by their budget (i.e. finances) and the different prices and availability of all the products and services they could buy. This is assumed to deliver an ‘efficient’ outcome. This means that all of the resources in society will be allocated in a way that allows everyone to maximise their own utility, although this is dependent on a certain set of conditions being met. These include perfect information (that everyone has information on all products and services and their prices) and perfect competition (i.e. firms are not able to exploit consumers by charging higher prices because of the existence of firms in competition

with them). Where these conditions are not met, there are said to be ‘market failures’ and there is a role for government to intervene.

Economics therefore suggests a range of policy responses that can lead to changes in behaviour. For example, taxes can alter the prices people face when they buy certain products or take certain actions, which therefore changes the incentives to behave in a certain manner. Provision of more information to consumers can affect their choices if information failures are preventing them from making informed decisions. If markets do not provide a credit option to enable individuals and businesses to make decisions that are costly to them in the short-run but beneficial in the long-run, then financial assistance such as grants or subsidised loans can be made available.

## 2.2 Recognising individual determinants of behaviour

Over the last few decades there have been a number of ‘theories of behaviour’ which have been tailored for the academic literature, adapted for policy or used within the discussion of catalysing change. Other research (Darnton, A (2008), Jackson, T (2005) and Darnton A *et al* (2006)) offer authoritative reviews of the theory.

The simple, robust and easily adapted dual-path models forming the basis of the Theory of Planned Behaviours (TpB)<sup>2</sup> and Theory of Interpersonal Behaviour (Triandis etc) are, perhaps, the most relevant for thinking about policy and the linking of underlying psychological issues. At a basic level there can be identified four basic components of behaviour – attitudes, social norms (which include wider society influence), habits (and other internal factors) and external factors (including market conditions, cost and policy interventions that can act on these). Within this approach, the intention to adopt a particular behaviour is a function of attitudes, the extent to which the views of others matter (social factors), past behaviours and the degree to which it is actually possible. Intention is facilitated by external (government) measures and incentives to undertake the desired action. An illustration is provided in Figure A in the annex.

## 2.3 Insights from Behavioural Economics

The term ‘behavioural economics’ refers to more recent developments in economics that aim to complement economic approaches and analysis by improving the underlying assumptions about individual behaviour.

The key findings from behavioural economics are:

- **People display ‘bounded rationality’** - People cannot make the complex calculations necessary for ‘rational’ decision making, for example due to the amount of information they must process or the manner in which they compare competing products and services;

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<sup>2</sup> Ajzen, I 1991. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes* 50, 179-211.

- **People are inconsistent in their preferences over time** – People discount heavily in the very short term and make decisions inconsistent with their long-term preferences. For example, it is easy to eat cake today and put off dieting until tomorrow;
- **People exhibit reciprocity and value fairness** - people may gain satisfaction from the levels of satisfaction and behaviours of others. For example, they are willing to forego a benefit in order to punish someone they feel is acting unfairly.

Essentially, the key implication of behavioural economics is that individuals may not display the ‘rational’ behaviour that standard economic preference theory would suggest. Taking account of this more nuanced understanding of behaviour can help improve economic appraisal of policy options; develop innovative policy responses; and provide new insights into policy evaluation.

Behavioural economics is a fast-developing and relatively new discipline, and as such there exist many different approaches, definitions and understandings of what the term means and what it means for policy-making. The Social Market Foundation, in its publication ‘*Creatures of Habit? The Art of Behavioural Change*’ (Social Market Foundation, 2008), takes a broad view of behavioural economics explicitly joining external (cost) and internal factors (habits, cognition etc) that provides a clear link between economic and social theory approaches. The report argues that individuals are “often aren’t actually all that ‘rational’ in their behaviours” and importantly includes the impact of the social context on individual behaviour (e.g. social norms and peer pressure) within the term ‘behavioural economics’. (See Figure B in the annex for an illustration of this behavioural economics framework).

Others take a much narrower view of behavioural economics, arguing that its contribution to microeconomics is focused on cognitive processing – explaining how individual decision-making deviates from standard economic theory, most often unbeknown to the individual and disregarding social context of wider influence. For example, individuals feel losses greater than they feel equivalent gains; their valuation of goods can be influenced by seemingly unrelated events (such as thinking about a number beforehand); and they often make short term choices that conflict with their long term preferences. A methodology widely used within behavioural economics is the choice experiment where individual decision-making and preferences are tested with hypothetical choices.

Regardless of the precise definition used, it is clear that behavioural economics broadens the standard economic approach to behaviour change, to consider not just information and financial constraints but also the way choices are designed, how information is presented and communicated, and the type and size of price interventions needed to maximise the effectiveness of policies. Behavioural economics can also encompass the wider influences of society and group effects and bring together economics and social research more explicitly.

### 3. Policy-making that takes account of behaviours - Defra's approach

#### 3.1 Why is behaviour change relevant to Defra?

Defra is a department committed to the principles of sustainable development, and championing it across government. A key underlying concept is that all citizens have a stake in our future world and shaping views and behaviour towards a changing society is critical. This requires not just shaping behaviours in the short term but also in embedding these behaviours and practices in the long term.

Additionally, on a more practical level, influencing behaviours is particularly relevant for large areas of Defra's policy remit. For example, targeting the range of market failures relating to the environment, such as the costs to society of polluting behaviour or the provision of environmental services (such as green spaces) that individuals may not do by themselves.

To meet the need for a practical approach to behaviour change, a model encompassing both internal and external factors was developed for use within a policy context. This was first included in the UK Sustainable Development Strategy ('*Securing the Future*' Defra, 2005). This model proposed that for successful (and sustainable) government intervention there needs to be a balanced approach addressing both internal and external barriers to change through the '4Es' (see Figure C in the annex for more details):

- **Encouraging** (giving the right signals - incentives and disincentives) i.e. what measures are needed to be put in place to provide incentives to encourage and disincentives to discourage to ensure our target audience responds;
- **Enabling** (make it easier – systems and capacity) i.e. what type of infrastructure, services, skills, guidance, information and support is needed;
- **Engaging** (get people involved – who / how target) i.e. what insights are needed to help understand those we are targeting? What type of partnerships, networks, communication and engagement methods are required;
- **Exemplifying** (lead by example – shared responsibility) i.e. what type of measures should be taken in order to demonstrate shared responsibility.

This model encapsulates an approach that is being adopted within Defra. The conventional tools of behaviour change using incentives, disincentives, regulation, information and the provision of support can be viewed as **enabling** and **encouraging**). These are coupled with a greater understanding of reaching out to those we are targeting through **engaging**, using research, communication and partnership building and **exemplifying** by sharing the responsibility for action and taking leadership for hard decisions. The principles underlying this model can be readily translated into actions at each step within the policy development process and for each of the case studies a summary box provides a summary of effectiveness as measured through the 4Es. This approach provides an effective way of

viewing public policies and the role of behaviours as illustrated by a recent Institute for Government report<sup>3</sup> (see Fig D in the Annex).

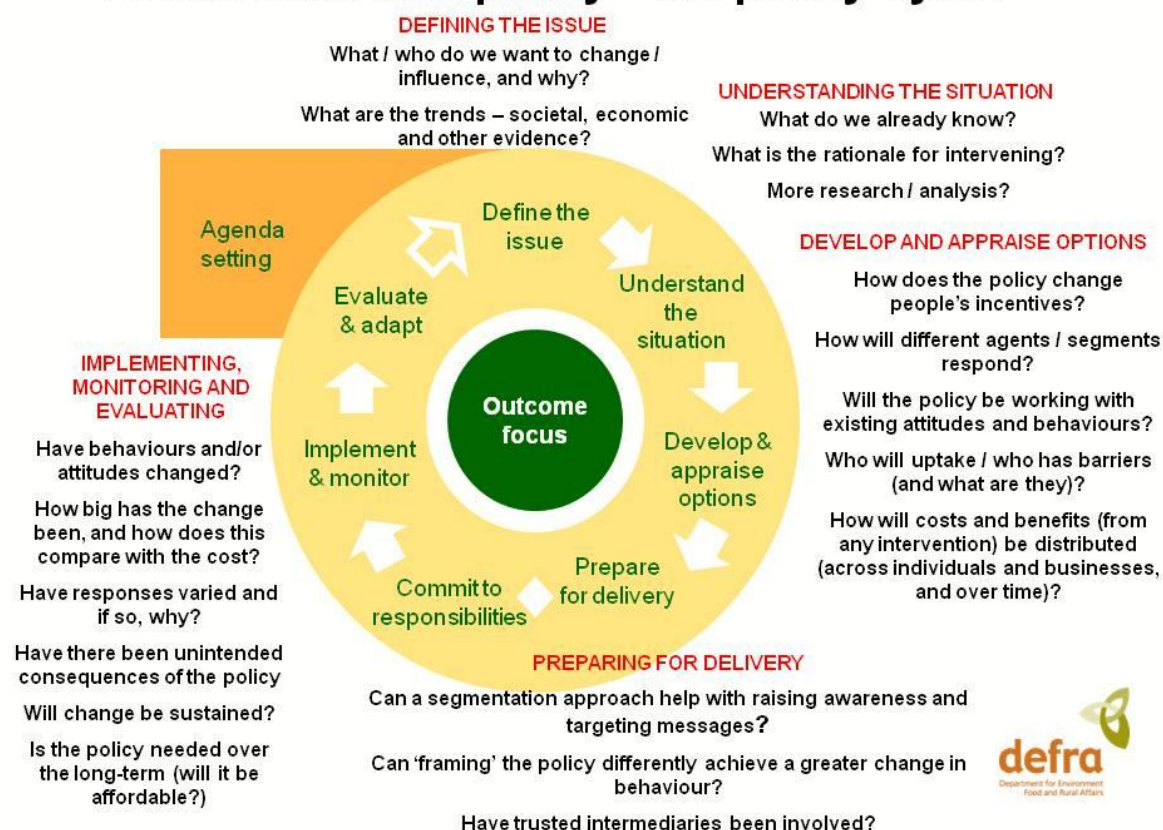
### 3.2 Defra’s approach to policy making

Defra has adopted a systematic corporate approach to policy development and delivery that is summarised in a ‘policy cycle’. This provides a real opportunity for identifying the points where understanding and influencing behaviours is critical to policy success.

Although often seen as essential for communicating a policy once developed, the analysis to inform behaviour change needs to be considered at early stages of the development of policy, and at each stage of the policy cycle. Understanding behaviours is crucial to ensuring successful outcomes from the policy and is essential for evaluating these policies – whatever the outcome (desired or unanticipated) it is important to know what works and why (or why not).

Figure 4 below presents the Defra policy cycle to illustrate how ‘behaviours thinking’ is being incorporated in policy-making. This model forms the base for a common narrative for all case studies in the next section.

## Behaviours into policy - the policy cycle



<sup>3</sup> Institute for Government (2010). Going with the Grain: influencing behaviour through public policy

There are five main areas of the policy cycle where social research on behaviours, economic analysis and the use instruments are being increasingly integrated and provide an important focus for research and analysis influencing policy:

- **Defining the issue and Understanding the situation**

*Defining the issue* is about identifying why and where Government needs to intervene to influence behaviours also ensuring that we act only when it is necessary for us to do so. Once an area of intervention is agreed, the complexities of Defra's challenges require a detailed understanding of those factors we seek to influence.

Framing the question in terms of 'why do people/businesses do what they do?' and 'how can we reduce the barriers to adopting better practices and incentivise changes in behaviour?' necessitates an understanding of both theories of behaviour (economic and social) and also current trends e.g. attitudes, knowledge and beliefs as well as actions.

This area has been a primary focus for social research in Defra where we have compiled an authoritative evidence base of commissioned research and in-house knowledge. This evidence includes underpinning and cross-cutting theoretical/generic research (e.g. exploring catalytic behaviours and unlocking habits<sup>4</sup>) and a range of policy focused work (e.g. the 'public understandings' series covering a range of consumption issues including food, transport, energy etc<sup>5</sup> and understanding and influencing positive behaviour by particular policy targets e.g. farmers and land managers<sup>6</sup>). Our work on establishing an evidence base, particularly in individual or household-based environmental behaviours<sup>7</sup> is well-recognised and respected across government and a source of reference material for the research community.

As well as drawing on research studies, the understanding of key customer groups has been enhanced through attitude and behaviour surveys for example the Public Attitudes and Behaviour Survey<sup>8</sup> (and tracker surveys<sup>9</sup>) and the Farm Practices Survey series<sup>10</sup>. Defra has developed an extensive analytical framework to help to understand and influence pro-environmental behaviour based on available evidence. This has focussed on developing an in-depth interpretation of the underlying motivations for current behaviour and how to support more sustainable behaviours in the future. The breadth and depth of knowledge compiled by the Sustainable Behaviours Unit is illustrated in Box 1 below.

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<sup>4</sup> <http://www.defra.gov.uk/environment/business/scp/evidence/theme3/sustain-consump0809.htm>

<sup>5</sup> <http://www.defra.gov.uk/environment/business/scp/evidence/theme3/sustain-consump0607.htm>

<sup>6</sup>

[https://statistics.defra.gov.uk/esg/ace/research/pdf/ACEO%20Behaviours%20Discussion%20Paper%20\(new%20links\).pdf](https://statistics.defra.gov.uk/esg/ace/research/pdf/ACEO%20Behaviours%20Discussion%20Paper%20(new%20links).pdf)

<sup>7</sup> <http://www.defra.gov.uk/evidence/social/behaviour/index.htm>

<sup>8</sup> <http://www.defra.gov.uk/evidence/statistics/environment/pubatt/download/pubattsum2007.pdf>;

<sup>9</sup> <http://www.defra.gov.uk/environment/business/scp/evidence/theme3/sustain-consump0809.htm>

<sup>10</sup> <https://statistics.defra.gov.uk/esg/publications/fps/default.asp>

**Box 1. Sustainable Behaviours Unit – a systematic ‘behaviours’ focussed evidence base – an exemplar of a Whitehall-wide resource**

***Cross-cutting research:***

- *Research investigating motivations for undertaking more sustainable behaviours* - focusing on a number of specific motivating factors - self and social identity; social norms; agency; guilt
- *Research investigating the fundamental barriers to behaviour:*
  - Unlocking habits to enable pro-environmental behaviours
  - Public perceptions of the short term actions that government should take to mitigate climate change
- *Research exploring the potential for catalysing further behaviour change:*
  - Catalytic individuals - Investigating key influencers with regard to environmental behaviours and the linkages with social norms, identity, and trust for mainstream consumers
  - Catalyst behaviours – exploring whether some behaviours are more likely to lead to others being adopted
  - ‘Moments of Change’ – opportunities for influencing behaviour, e.g. moving away to university, having a family, retiring, and an economic downturn.

***Building and tracking a baseline for headline behaviours and key beliefs:***

Behaviours and beliefs, values and attitudes towards the environment (Survey of Environmental Attitudes and Behaviours – 2007 baseline; 2009 tracking survey)

***An understanding of current behaviours:***

Public understanding of sustainable behaviours series testing understanding, willingness and ability to act on specific behaviours (informed by the Defra behaviour goals and the segmentation model). Qualitative research on food; energy; finance; travel; water; clothing; leisure and tourism.

***Linking production with consumption:***

*Engagement with business and encouraging more pro-environmental behaviour among SMEs.*

***Test beds for innovation: Action Based Research:***

Test evidence based hypothesis where innovation and behaviours are key as well as the potential to increase the momentum of change where acceptability is low e.g..

- Exploring the impact of co-design on participants’ waste reduction
- Schools as social networks – exploring the role of pester power and ‘catalytic’ individuals in primary and secondary schools
- Students – life-stage transition as a ‘moment of change’ and investigating which type of interventions work.

***Policy influence - Identifying the most effective ways to reach and engage people:***

- Informing the development of tools to engage people – e.g. the Act on CO<sub>2</sub> carbon calculator, terminology and language on climate change
- Testing different interventions to inform:
  - **Product Policy** e.g. EU-wide energy using product standards and labelling; Product Roadmaps – with industry supply chains; Sustainable Public Procurement-standards, enforcement
  - **Advising Business** e.g. through delivery bodies such as Wrap, Envirowise etc
  - **Sustainable consumption:** e.g. to influence policy and communication campaigns (Act on CO<sub>2</sub>).

Insight about our customers has also been strengthened by adoption of segmentation models (see case studies) that provide a framework for looking at the real diversity existing in target groups. Assessing customer groups in segments allows a more sophisticated approach to policy-making where we can assess different responses and impacts on different groups. This goes beyond traditionally measured attributes e.g. social economic characteristics (for citizens) or business size/type (for businesses). Attitudinal and objective segmentations can help tell us how people think and feel but, critically, also what internal factors may influence their decision-making, any barriers to action also how we can influence them (both mechanisms and mediums). Tailoring interventions to likely responses can give greater policy success and segmentations are a useful tool for influencing policy-thinking. For all our four main customer groups segmentations have been developed - citizens (environmental behaviours), farmers and covering the fishing industry- or is in development (businesses).

Understanding the evidence we currently have, and how things are projected to change over time, is important for identifying the 'baseline' (i.e. what would happen without any intervention). A wide range of analysis and modelling (both economic and scientific) informs this and also the degree to which behaviours would need to change to achieve the desired outcome. This analysis involves making assumptions, often in a generic manner that may not reflect the different attitudes and behaviours across society. Being aware of the limitations imposed by these assumptions, and how these assumptions can be improved (for example, through the insights of behavioural economics) can ensure that the evidence is presented and used in the most appropriate manner.

- **Developing and appraising options**

*Defining the issue* and *Understanding the situation* provides the background knowledge to ensure that policy interventions are appropriately tailored and targeted. The development, shaping, appraisal and selection of policy interventions will take account of the range of behaviours already existing and the degree to which behaviours can be influenced through different policy tools (for example, price elasticity determines the size of the changes in purchasing or consumption behaviour from altering prices).

The policy-making process typically involves the development of a number of possible policy responses. The projected impacts of these policy proposals are analysed within an Impact Assessment where evidence regarding the need for intervention and the proposed solutions are presented. This includes a rigorous economic analysis of the projected costs and benefits of the intervention to individuals and to society as a whole. This analysis helps determine the best value for money to society also taking into account quantified and non-quantified social impacts. This analysis may include economic modelling to help forecast how individuals, businesses and or segments of society will react to the intervention, and what burdens will fall on different sections of society. For example, Defra's Market Transformation Programme conducts modelling to forecast how consumers will respond to market interventions such as minimum standards for energy-using products<sup>11</sup>.

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<sup>11</sup> <http://efficient-products.defra.gov.uk/cms/market-transformation-programme/>

Impact Assessments also attempt (where possible) to place monetary values on the costs and benefits of policy options so that they can be compared in common unit. Where this is not possible, they report non-quantified or non-monetised evidence to inform the policy decision. Impact Assessments most commonly appraise economic instruments ('encouraging' and 'enabling') as the primary tool for 'behaviour change' but importantly these will subsequently be placed alongside the other 'e's in our model of behaviour change.

- **Preparing for delivery**

A single policy tool (such as one that changes the price of a product or an activity) can be more effective when accompanied by other 'engaging' or 'enabling' approaches. For example, Defra has recognised that positive engagement of businesses, stakeholders and citizens is critical to shaping attitudes and behaviours. Communication plays a really important role where national campaigns such as Act on CO<sub>2</sub><sup>12</sup> provides a unifying message across many policy areas. The Act on CO<sub>2</sub> approach clearly puts behaviour theories into practice where attitudes are shaped (facts behind climate change), habits informed and importantly the shared responsibility (exemplifying) is demonstrated (emphasising government and business actions, as well as individual actions needed).

The focus, when preparing for delivery, is not just in addressing 'information failure' through leaflets, advice or the media but actively using theories of behaviours when structuring communications. For example, segmentation has indicated that different triggers exist for different segments and any advice or guidance should look to act on these triggers for action, have resonance with the target groups and help to build trust. Additionally, account should be taken of the risk of alienating key groups through the use of language (the segmentation case study explores this issue further).

Communication may help reduce the cognitive barriers as highlighted by behavioural economics. For example, where bounded rationality means that consumers are unable to process all of the complex information necessary to make a 'rational' decision, providing information that is more easily used in individual decision making can help influence behaviours. Behavioural economics evidence also shows that the way in which choices are presented, and the default options that exist, can have a strong impact on the choices individuals make.

There has also been a greater recognition of the role of social factors (or norms). Engaging trusted intermediaries, role models within the group etc. all helps ensure that there is longer-term attitude shift as well as uptake as a result of any policy intervention (segmentation can help highlight appropriate intermediaries).

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<sup>12</sup> <http://actonco2.direct.gov.uk/actonco2/home.html>

- **Implementing, monitoring and evaluating**

This is one of the most important parts of the policy cycle – have behaviours changed? This includes an assessment of actual behaviour outcomes, who has been influenced (or not), whether the interventions were cost-effective and also the behaviours/approach of those involved in the process. Again, a behaviours model approach can be taken that incorporates an evaluation of the realised costs and benefits of the policy (external factors), actual attitudes and behaviours (internal factors), and the wider influence of social factors.

Establishing a methodology for looking at social impacts has allowed us to begin embedding this aspect within policy. Social impacts are the impact of a policy intervention that aims to influence the ways in which people live, work and play, either as part of a specific societal group or population as a whole. Importantly, taking a full ‘social’ approach to evaluation allows us to consider changes to attitudes, values and beliefs which are all determinants of behaviour. Social impacts can be beneficial or adverse and assessed against appropriate policy indicators, whether qualitative or quantitative. Differential impacts across society can also be considered including vulnerable, marginalised and other disadvantaged groups, but not forgetting the whole population who may be impacted by a policy.

### **3.3 Case studies**

All the case studies below are presented within Defra’s policy cycle framework as this provides the best way of emphasising the holistic and systematic approach. The exemplars provide context to different parts of the cycle and illustrate the inclusion of behaviours in policy-making and role of analysis. Although the principles are described, all the way from analysis and research in ‘understand the situation’ through to implementation and evaluation, the policies presented are all at different stages. Examples include research that has provided the theoretical basis for policies, analysis that helped choose the intervention option, specific instruments that were implemented and an indication of how whole policy frameworks adhere to the principles of ‘behaviour change’.

The behaviours aimed for are those that deliver sustained change in the long-term and go beyond just the immediate policy area. Responding to price or information signals in one area may lead to people consuming differently but the objective for all policies is wider practice of sustainable lifestyles. Sustained change is most effective with a balanced 4Es approach (see Annex A) and each case study highlights how the policy / focus for analysis addresses the key drivers for sustained change.

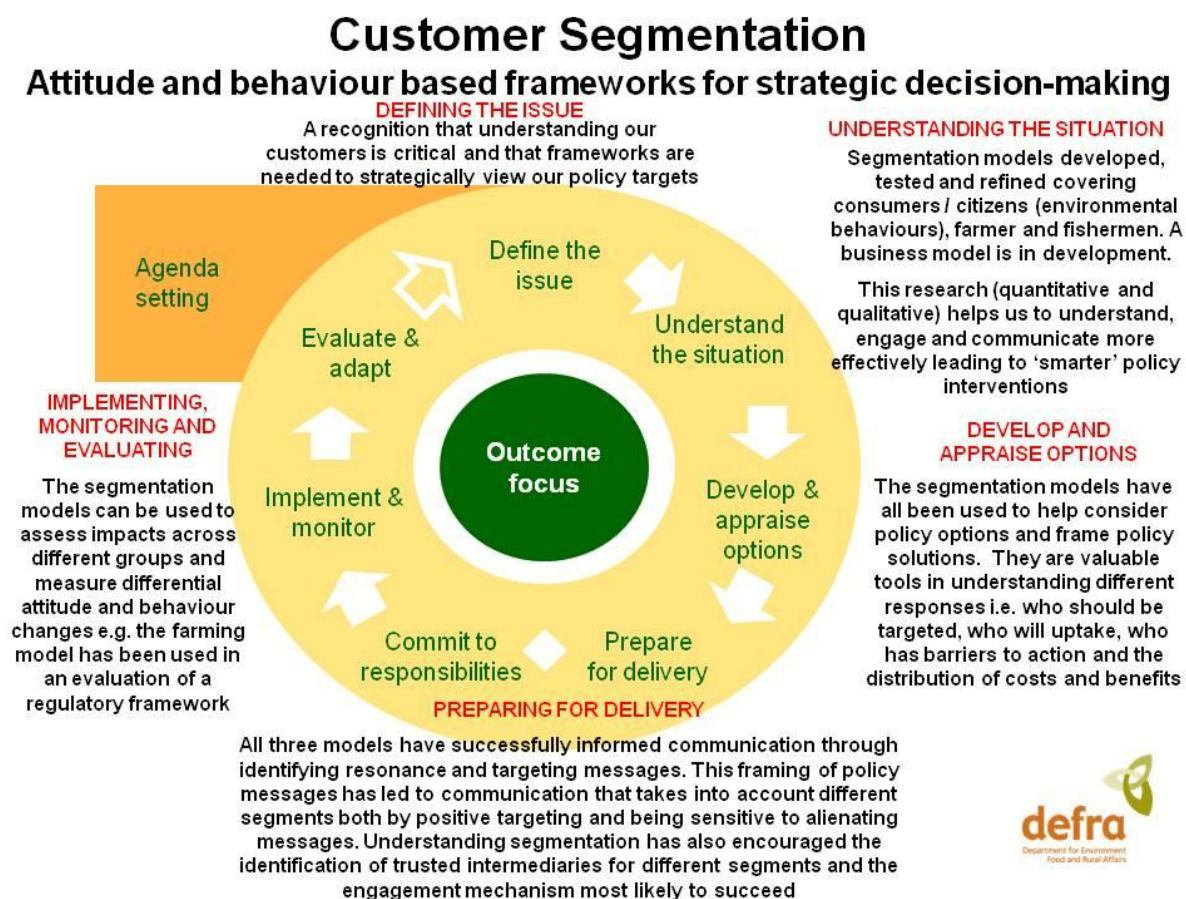
The following section provides six exemplars using analysis from within Defra but with case studies applicable across Whitehall boundaries. This section is not a critique of Defra’s policies but the focus is always on the analysis. Using real examples can most readily illustrate how social and economic analysis can act within a behaviours-focussed approach.

## CASE STUDY 1: CUSTOMER SEGMENTATION

Frameworks to embed customer insight and behaviours thinking across policy areas

### Background

Improving customer insight is a key focus for policy-making in Defra. Understanding our customers whether they are the public, businesses or key ‘transactional’ customers such as farmers and fishermen is a pre-requisite for successful government interactions to inform and influence attitudes and behaviours. Treating customers solely as one rational group is a very blunt instrument for achieving policy outcomes so a form of targeting is needed. Behaviour theory principles imply that different people have different underlying attitudes, values, habits, barriers, motivations and consequently respond to different interventions. Capturing all this diversity is important and a way of clearly presenting the range of customers is required to ensure that a systematic approach is available to help tailor policies.



## Outcomes

Drawing on practices used within commercial and social marketing, Defra has adopted a series of customer segmentation models to help provide a framework for thinking about policy interventions. These cover our:

- public pro-environmental behaviours segmentation
- farming industry segmentation
- fishing industry segmentation.

These segmentation frameworks complement existing ways of viewing our customers whether it is by demographics / socio-economic profiles or size / type of business. All three are mentioned in this same exemplar because they are not designed to influence one particular policy decision but they illustrate the basis for a new way of thinking in the way in which we deliver policies. The segmentations are relevant at different stages of the policy cycle and have been actively considered in a number of policy areas which are highlighted below. The farthest developed segmentation is that focussed on the public and this is explained in most detail below. The success of these segmentations has given us the confidence to work towards developing approaches for other businesses.

### **Sustainable Development Diamond / 4Es**

**ENCOURAGE** - makes desirable behaviour easier by working with existing attitudes and motivations

**ENABLE** – building advice networks and providing intervention options that are easy for all e.g. in relation to waste

**ENGAGE** - takes account of cognition in terms of different levels of understanding, triggers for action and uses existing networks (especially in communication)

**EXEMPLIFY** – an approach responds to shared economic, social and environmental goals and demonstrates the role that different segments can have.

## **A. A framework for pro-environmental behaviours**

### **Background**

Government wants to motivate people to adopt environmentally friendly behaviours, with the aim to protect and improve the environment by increasing the contribution from individual and community action. In this instance behaviour change is about moving towards more sustainable patterns of consumption, covering the purchase, use and disposal of goods and services.

Evidence exists on what people think about climate change and the environment, reported levels of environmental behaviours, different interventions and motivations and barriers to further environmental behaviour. To use these research findings and insights to increase the effectiveness of policy and communication activity, Defra developed a segmentation model to understand how these findings are packaged together for specific groups in the population<sup>13</sup>.

The environmental segmentation model segments the public into seven groups, each sharing a distinct set of attitudes and beliefs towards the environment. This, alongside the wider evidence base, means we can better target communications and policy to address the needs and motivations of different population groups. Each profile includes information about motivations and barriers, knowledge and engagement with the environment, current environmental behaviours in the home (including purchasing and travel) and media usage and lifestyle information.

The segmentation model allows Defra to assess which segments have greater potential for which behaviours and how this can be optimised in policy development. So far, this approach has informed prioritisation for different communication and policy activities. The focus is not on moving people between segments. The aim is rather to use the insights from the segmentation model and wider research to develop tailored and targeted approaches to encourage greater levels of environmental behaviour within segments.

## **Outcomes**

Defra has used the segmentation model:

- In communication e.g. to inform campaign development, messages and media buying for the Act on CO2 campaign;
- In research e.g. to inform recruitment to research projects. There is a guide to recruitment for further research, outlining the questions that need to be asked and how people are allocated to segments;
- To influence thinking both within Defra and external businesses, market research agencies, academics and local and national governments
- To change the way Defra delivers e.g. to improve the targeting and reach of projects delivered by the third sector.

The consensus is that, in research, it enables a deeper understanding and more effective exploration of issues because people are segmented on the basis of their beliefs and values about the environment and this can act as a basis for further discussions. This has led to the identification of insights within and across segments, such as the role of wastefulness as a motivation with more reach and effective engagement than saving money and relying on environmental concern alone. It has allowed us to take forward our understanding of what it means to different people to undertake pro-environmental behaviours; different expectations of others and of government and the different implications of this for what people do. All of

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<sup>13</sup> <http://www.defra.gov.uk/evidence/social/behaviour/documents/behaviours-jan08-report.pdf>

this is important in building interventions that will extend reach and uptake of environmental behaviours.

The segmentation model is a component of Defra's framework on pro-environmental behaviour. The framework provides an authoritative base for understanding people's beliefs and behaviours towards the environment, the behaviours that people can do and draws conclusions on where there is potential for change across a range of behaviour groups. This includes identifying a set of behaviour goals (agreed with internal and external stakeholders), insights from our pro-environmental behaviours evidence base as well as reported levels of current and potential behaviour, an environmental segmentation model, best practice principles for strategies to encourage behaviour change, and an assessment of the implications for policy and communications (by core themes, by behaviour and by segment). It is designed to support policy development and implementation in Defra, in other Government Departments (e.g. DECC), and externally.

## **B. Fishing industry segmentation**

**Background:** The Sustainable Access to Fisheries Project (SAIF) aims to deliver a strategy for long term social, environmental and economic sustainability for the English inshore fishing fleet and a key policy objective is to communicate and engage more effectively with the fishing community.

**Outcomes:** The segmentation has helped build up a rich and detailed understanding of fishermen, identifying and defining a range of 'types' of fishermen based on their needs, motivations, attitudes and behaviours. The segmentation has had many benefits including both in policy delivery but also critically in raising the level of understanding within Defra. The fisheries segmentation project has highlighted some key messages about attitudes, behaviours and, in particular, views on how we communicate and engage with the fishing community – this has helped the SAIF team to enhance and target communication activities, including:

- Looking to recruit trusted intermediaries in the form of a 'coastal liaison officer' to support the first phase of consultation around future options for the fleet, using face to face engagement;
- Identifying and engaging face to face local influencers to act as spokesmen/conduits for engaging within existing networks;
- Developing a newsletter that aims to be meaningful, engaging, and accessible to the different segments
- Launching an on-line forum to facilitate open debate about fisheries issues.

As well as delivering specific outcomes, researching the segmentation raised awareness of policy and importantly successfully engaged the industry. Nearly 150 took part in workshops around the coast, talking openly and frankly about a wide range of issues, including the environment, quotas and licensing, financial circumstances, and views on government. This work has provided a basis for more detailed research on the social impacts of fishing in coastal communities.

### C. Farming industry segmentation

**Background:** Farmers are a key customer group for Defra and are subject to very comprehensive mechanisms in place to influence behaviours. The range of interventions encompass the full policy-makers toolkit covering regulation, capital incentives, market prices, information and advice etc. Farmers are, in many cases, both businesses and individuals and are also examples of businesses where profit maximisation is very commonly not the most important goal. Farmers have always been segmented and targeted, for example according to business type but the role of attitudes and motivations is equally important in determining decision-making and farming practices.

**Outcomes:** The segmentation, developed using quantitative and qualitative research, has provided a framework for identifying and defining five broad 'types' of farmer based on their attitudes and motivations. The segmentation has been successful at influencing communications and policy thinking and has raised the level of understanding within Defra about farmers as a diverse customer group.

Defra has used the model:

- In communication, for example to inform the development and messages within the Act on CO<sub>2</sub> farming campaign<sup>14</sup>;
- In research, for example in evaluations to see if measured behaviours can be explained by different attitudes and motivations;
- To influence thinking both within Defra and with our key stakeholders, for example how different farming businesses could respond to climate change mitigation or a focus on competitiveness.

The segmentation has been influential as a tool for influencing the policy debate within Defra as it has provided a way of conceptualising the wide diversity in attitudes, motivations and behaviours. Focussing on simple messages, such as which segments respond more to emotive messages and which take a more rational business perspective allows communications and interventions to be developed that include uptake triggers for as many businesses as possible. Additionally, the framework has allowed intervention channels, media and intermediaries to be examined in more detail such as differences between lifestyle opinion leaders and business-focussed leaders.

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<sup>14</sup> [http://www.farmingfutures.org.uk/Documents/Publications/DEF-PB13321-ClimatBk%20\(2\).pdf](http://www.farmingfutures.org.uk/Documents/Publications/DEF-PB13321-ClimatBk%20(2).pdf)

## **CASE STUDY 2: ENERGY USING PRODUCTS – DOMESTIC LIGHTING**

The policy area of domestic lighting demonstrates a number of interventions designed to help overcome the behavioural barriers that prevent consumers from realising the benefits possible through the use of more energy efficient light bulbs.

### **Background**

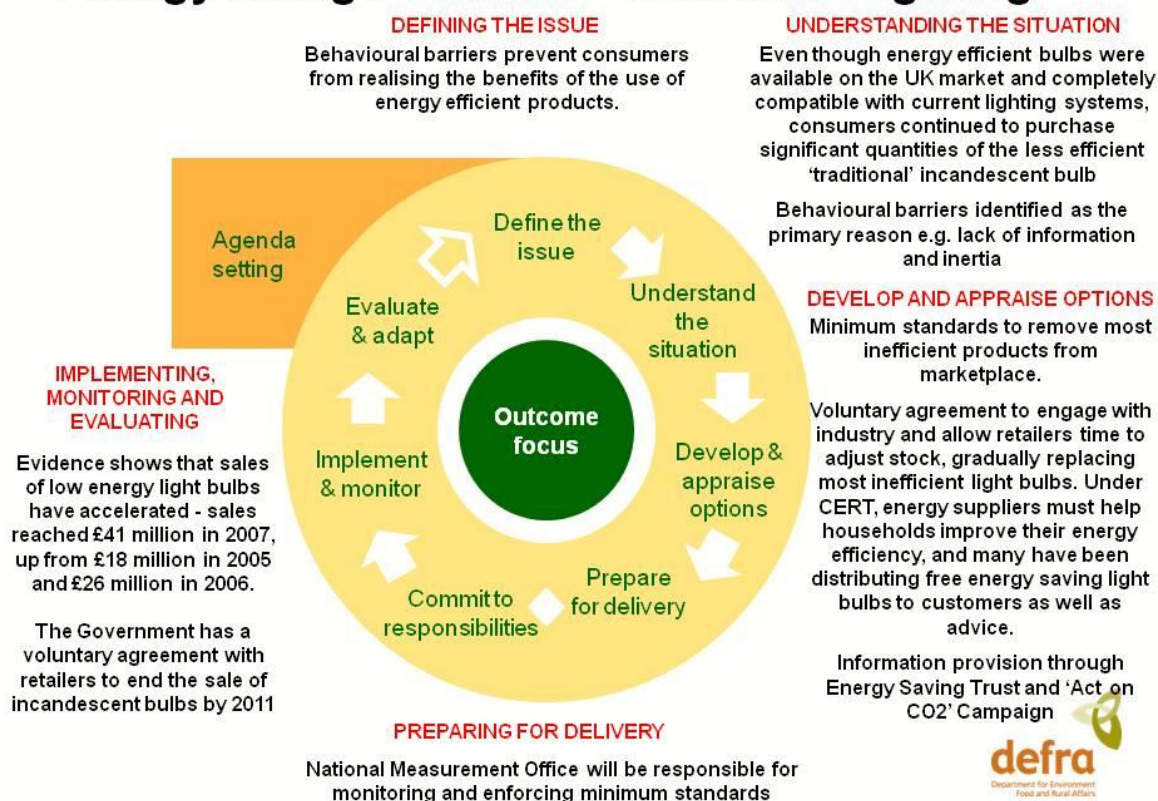
Consumers do not necessarily take energy efficiency into account when making purchasing decisions and this often results in a less than optimal outcome, both financially in the long-term for the individual and additionally environmentally in terms of greater greenhouse gas emissions. Even if it were a factor a consumer wished to consider, the information on energy performance may not always be readily available. In addition, evidence suggests that consumers tend to assume all modern appliances are ‘good’ at consuming low amounts of energy. Overcoming the barriers that prevent energy efficiency being factored into purchasing decisions can generate significant financial and environmental savings.

Previous research highlighted that although energy efficient bulbs had been available on the UK market for several years, the sales of the traditional incandescent bulbs were still significant. This suggested that consumers were not fully aware of the benefits of using more energy efficient products and also, in some cases, did not have the necessary information to realise their complete compatibility with current lighting systems.

### **Rationale for Intervention**

The continued use and sales of inefficient, high-energy using light bulbs represents a market failure in the sense that whilst negative externalities, such as carbon emissions, are compensated for through market mechanisms like the EU Emissions Trading System (EU ETS), not all market failures are corrected. Some market failures persist, such as lack of information, personal preferences or inertia which manifest themselves as barriers to behaviour change. Intervention is consistent with the “third leg” of the Stern Report (the need to develop policies to remove barriers to behaviour change such as lack of reliable information, transaction costs, and organisational and individual inertia) and provides the rationale for additional measures complementary to the EU ETS.

## Energy Using Products – Domestic Lighting



### Outcomes

A number of interventions have been targeted at overcoming these behavioural barriers to change:

- Choice Editing - A voluntary agreement with retailers will end the sale of incandescent bulbs by 2011. Minimum standards are also being implemented to gradually phase out the most inefficient products on the marketplace. The implementation of minimum standards removes inefficient products from the market, enabling consumers to have greater confidence in the purchase choices that they make;
- Information provision – Energy Saving Trust provides information communicating the benefits of energy saving lighting and aims to educate customers about the range of Energy Saving Recommended bulbs available on the market. The 'Act on CO2' campaign also informs consumers about energy efficient bulbs through their information on carbon friendly home improvements;
- The Carbon Emissions Reduction Target Programme (CERT) distributed 27.7million energy efficient light bulbs in the first two quarters of 2008. There have also been other free offers provided by industry for example The Sun newspaper and Southern Electric plc together gave away 4.5million bulbs in January 2008;
- Labelling helps increase consumers understanding of the relative energy performance of each product.

Total sales of low energy light bulbs reached £41 million in 2007, up from £18 million in 2005 and £26 million in 2006. There is anecdotal evidence that sales have accelerated considerably. Tesco supermarkets were reported to have a special offer of 5 bulbs for 40 pence at the end of 2008 and the company reported that it had sold 3.5 million low energy bulbs in October 2008 alone. As energy-saving bulbs use only 20% of the electricity of traditional bulbs and lighting consumes a significant amount of electricity, the financial and carbon savings can be substantial. The Energy Saving Trust calculates that a new home with 15 light bulbs would save £45 a year by installing new bulbs.<sup>15</sup> It has been estimated that if only low energy light bulbs were used in households, the estimated total reduction in emissions of carbon dioxide would be just less than 3 million tonnes of carbon dioxide per year, some 2 per cent of the total carbon dioxide emissions from UK households in 2006.<sup>16</sup> The government's Market Transformation Programme, a body that provides evidence to the government on energy-using products, suggests that the difference between the reference (do nothing) scenario and the best feasible outcome for installing low energy bulbs represents approximately 3.5 million tonnes of carbon dioxide saved in 2011.<sup>17</sup>

Evidence suggests that the energy ratings scheme is considered a good concept by consumers as it is the only means participants are able to identify an energy efficient product. Regulation has been highly effective in changing consumer behaviours and increasing the market share of A-rated appliances through the energy ratings scheme. Moreover there is an expectation from consumers that manufacturers should only be providing 'good' energy efficient products.

#### **Sustainable Development Diamond / 4Es**

**ENCOURAGE:** Carbon Emissions Reduction Target Programme provides free light bulbs for households.

**ENABLE:** Choice editing through minimum standards and the Voluntary Agreement remove the most inefficient products from the market. They also encourage producers to concentrate production on more efficient products.

**ENGAGE:** Information provided through EST/'Act on CO2' informs consumers of the benefits of energy efficient light bulbs and on their compatibility with current lighting systems. Efficiency rating labelling provides point of sale information.

**EXEMPLIFY:** the voluntary agreement with retailers is a good example of government and retailers taking a lead in action towards the environment.

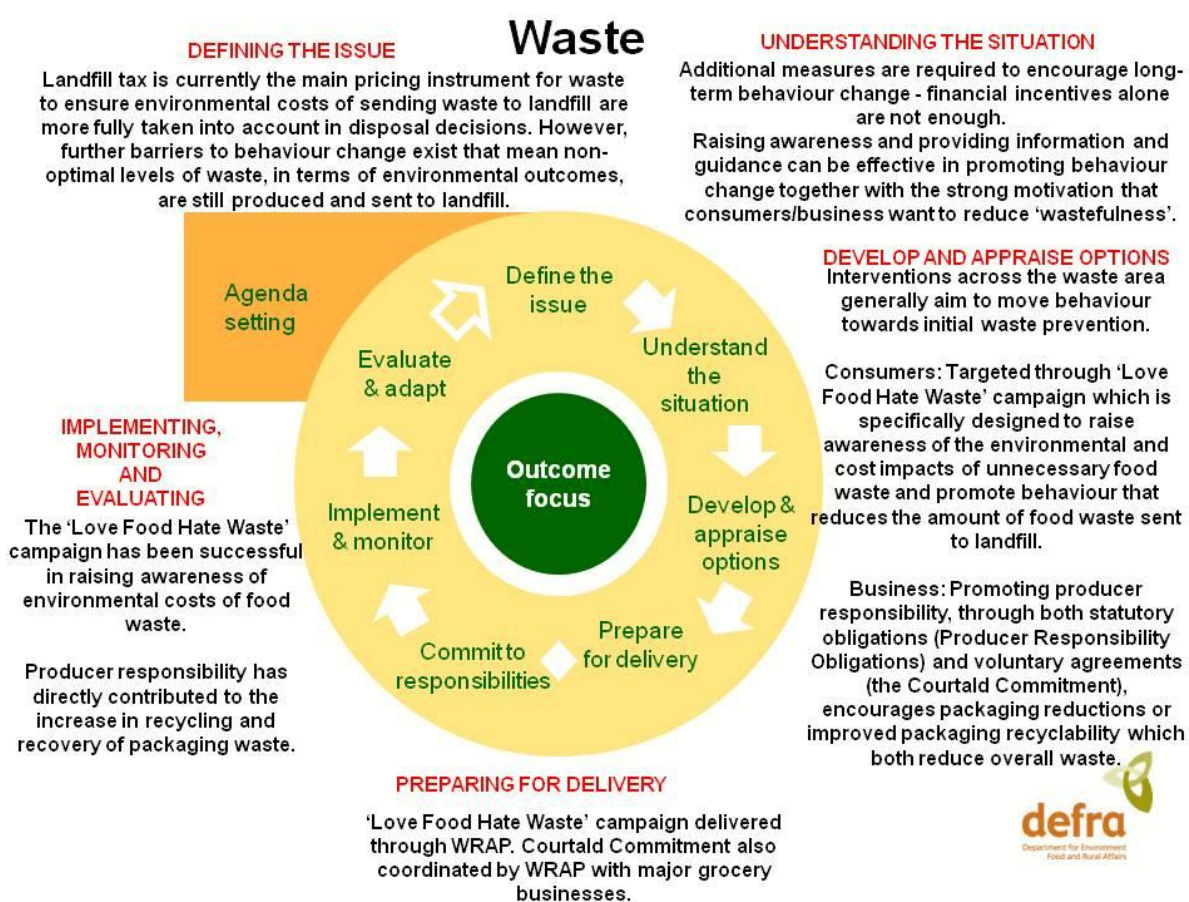
<sup>15</sup> Energy saving light bulbs take over, Energy Saving Trust Website

<sup>16</sup> 'The Phasing Out of Incandescent light bulbs', <http://www.parliament.uk/commons/lib/research/briefings/snsc-04958.pdf>

<sup>17</sup> Market transformation Programme, Product Strategies, Domestic Lighting

## CASE STUDY 3: WASTE

Waste is an area where there are a number of measures targeted at influencing individual and business behaviour. Probably the most significant intervention is via the landfill tax which is a tax on the disposal of waste. It aims to encourage waste producers to create less waste and recover more value from waste (for example, through recycling or composting and to use more environmentally friendly methods of waste disposal). However, other complementary waste measures have been implemented to overcome the remaining behavioural barriers that result in non-optimal levels of waste being disposed to landfill. The aim of most measures is to shift behaviour further up the waste hierarchy<sup>18</sup> towards the initial prevention of waste. This case study looks at measures targeted at: (i) individuals ('Love Food Hate Waste' campaign) and (ii) businesses (packaging measures) that aim to incentivise behaviours that minimise waste.



<sup>18</sup>The waste hierarchy aims to encourage the management of waste materials in order to reduce the amount of waste materials produced, and to recover maximum value from the wastes that are produced. It is not applied as a strict hierarchy as many complex factors influence the optimal management for any given waste material. However, as a guide, it encourages the prevention of waste, followed by the reuse and refurbishment of goods, then value recovery through recycling and composting.

## ***Individuals – ‘Love Food Hate Waste’***

### **Background**

An estimated 8.3 million tonnes of food is thrown away by households in the UK every year and most of it could have been eaten. Environmentally, this is a waste of resources with the energy, packaging, storage and transportation that it requires. If sent to landfill, food decomposition also has further greenhouse gas implication emitting approximately 258kg of carbon equivalent per one tonne of waste.<sup>19</sup>

Increasing knowledge and understanding of the impacts of behaviours is an important component of any package of interventions designed to encourage more sustainable behaviours. WRAP’s campaign, ‘Love Food Hate Waste’ is specifically designed to raise awareness of the environmental and cost impacts of unnecessary food waste and promote behaviour that reduces the amount of food waste sent to landfill.

### **Rationale for Intervention**

The ‘Love Food Hate Waste’ campaign raises awareness of easy, practical, everyday ways that households can reduce food waste. The campaign focuses on consumers’ strong desire to reduce wastefulness by sending positive messages about the rewards and benefits that can be achieved through specific behavioural changes (e.g. planning, shopping, cooking etc.). Generally individuals tend to, for example, waste food if cooking or preparing too much, not using food in time or not eating food because its use-by date has been exceeded. Information is provided through, for example, the website in the form of guidance on date labels, recipes for leftovers and top tips for storage.

### **Outcomes**

In terms of outcomes, consumers can save up to £50 a month by wasting less food<sup>20</sup>. If collectively everyone stopped wasting food that could have been eaten, it would save the equivalent of at least 20 million tonnes of carbon dioxide.

## ***(i) Business – Producer Responsibility & Packaging***

### **Background**

Although packaging has a function to protect a product and minimise wastage, it also has significant implications towards the environment. It requires the use of raw materials, influences the frequency of transportation for a product and its final disposal contributes to greenhouse gas emissions. For example, in 2007 packaging accounted for 5% of all waste going to landfill. For these reasons, measures have been adopted that aim to influence businesses and manufacturers in designing optimal packaging that minimises environmental impacts without compromising the ability to protect the product.

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<sup>19</sup> Waste Strategy Impact Assessment (2007), Table A.28, p.71,  
<http://www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste07-annex-a.pdf>

<sup>20</sup> Love Food Hate Waste, [http://lovefoodhatewaste.com/save\\_time\\_and\\_money](http://lovefoodhatewaste.com/save_time_and_money)

## **Rationale for Intervention**

Businesses need tools, methodologies and guidance to help them make more sustainable and transparent choices. Intervention targeted at business attempts to overcome the barriers which prevent firms taking measures to improve resource efficiency for financial and environmental gain. Producer responsibility, either in the form of statutory obligations (Producer Responsibility Obligations) or voluntary agreements (the Courtauld Commitment), can encourage packaging reductions or improve packaging recyclability.

### *Producer Responsibility Obligations*

Producer Responsibility Obligations regulations have been put in place to ensure that the UK meets the recycling targets set by the EC Directive on Packaging Waste<sup>21</sup>. A market-based system has been developed in which businesses have to buy Packaging Waste Recovery Notes (PRNs) from re-processors as evidence that a proportion of the packaging currently used has been derived from recovered or recycled material. Such regulations therefore have a built-in incentive for business; the less packaging a business handles, the less they have to pay towards recovery and recycling. PRNs with the lowest price reflect a more environmentally friendly material that is easier to collect and recycle. The proceeds from the sale of PRNs to producers help finance improvements in the collection and recycling infrastructure across the UK.

### *Courtauld Commitment*

The Courtauld Commitment is a voluntary agreement between WRAP and major grocery businesses to deliver absolute reductions in packaging waste by 2010. Such policy encourages: innovative packaging formats; reducing packaging weight; increased recycled content in packaging, designing for recyclability; and, increasing the use of concentrates. Such changes not only minimise environmental impacts but also lead to more savings in the form of lower transportation costs and cheaper prices for recycled materials.

## **Outcomes**

In terms of benefits, producer responsibility has directly contributed to businesses changing their behaviours around waste and therefore increasing the recycling and recovery of packaging waste in the UK from 28% in 1997 to 61% in 2008.<sup>22</sup> This means that in 2008 over 6.6 million tonnes of waste was diverted from landfill and over 8.9 million tonnes of CO<sub>2</sub> equivalent emissions were avoided. The current system has also delivered improvements in reprocessing capacity at relatively low cost to businesses – approximately £577 million over 10 years.

Signatories to the Courtauld Commitment have also halted growth in packaging waste (as agreed) and are on target to meet the 2010 objectives of reducing such waste. WRAP have estimated that the agreement has taken 180kT of packaging out of the waste stream in 2008 compared to 2007.

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<sup>21</sup> The EU Directive on Packaging and Packaging Waste required all member states to recover a minimum of 60% of all packaging waste by 31 December 2008 (of which 55% should be recycled), and to maintain performance thereafter. The directive also set down specific recycling/recovery targets for glass (60%), paper/board (60%), metals (50%), plastics (22.5%) and wood (15%).

<sup>22</sup> <http://www.carbon-zone.com/news/documents/excec-summary-pack-strategy.pdf>

### **Sustainable Development Diamond / 4Es**

**ENCOURAGE:** Financial disincentives, such as the landfill tax, provide strong incentives for waste prevention or other cost-effective methods of waste disposal for businesses. The Producer Responsibility Obligations is a market-based mechanism which helps encourage business to use more sustainable packaging that has a higher recycled/recovered content.

**ENABLE:** Recycling and waste minimisation infrastructure enable positive behaviours e.g. door step collection of food waste (for households) and reprocessing capacity (businesses).

**ENGAGE: Consumers:** The provision of guidance from WRAP through 'Love Food Hate Waste' incentivises individuals to waste less food by sending positive messages about how consumers can reduce waste (also explaining the financial benefits of reduced food expenditure as a result) and also provides certain tools (e.g. recipes for leftovers) to help in achieving successful behaviour change.

**Business:** The Courtauld Commitment engages with major grocery retailers to successfully deliver reductions in packaging waste

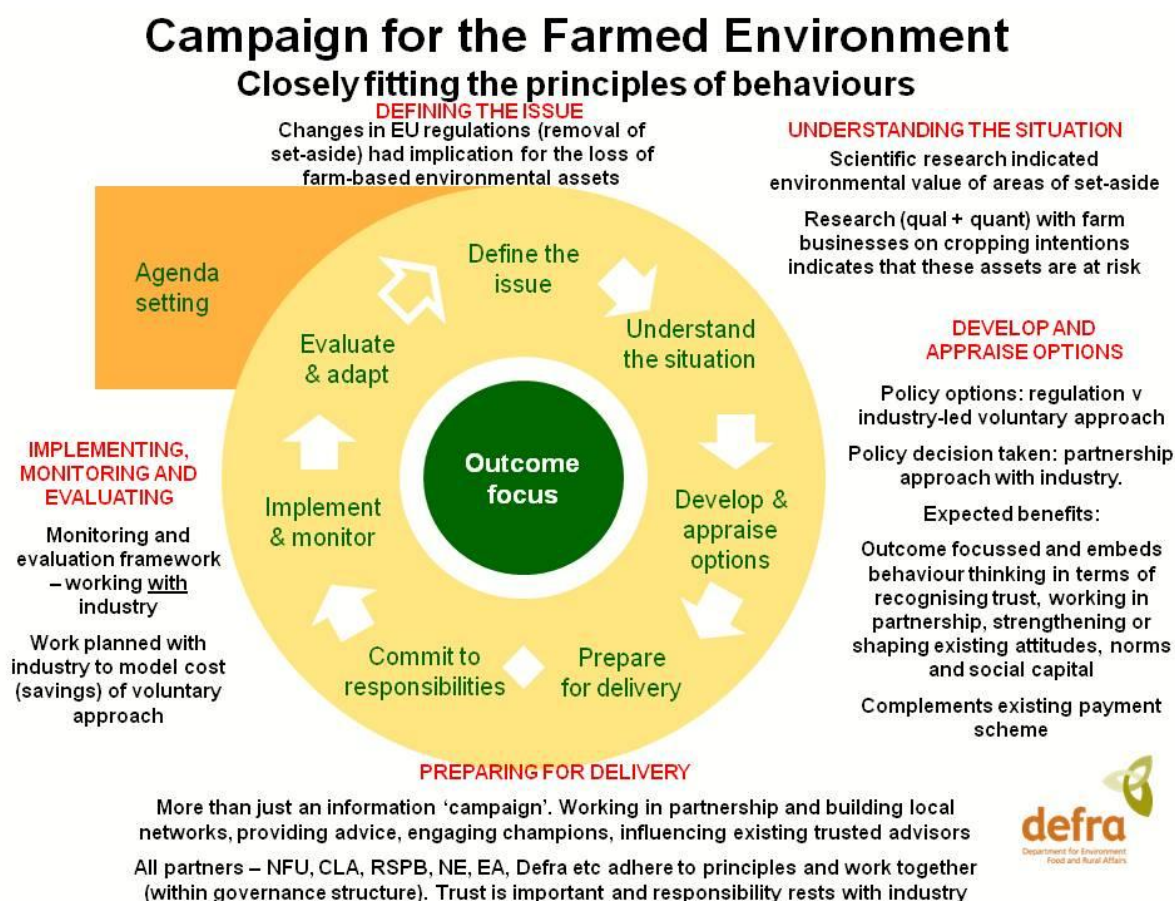
**EXEMPLIFY:** A delivery body dedicated to facilitating positive action demonstrates government commitment and provides a single point of information and acts as a focus for action e.g. negotiating voluntary agreements with business.

## CASE STUDY 4 – CAMPAIGN FOR THE FARMED ENVIRONMENT

A policy closely fitting the principles of a behaviours approach.

### Background

Research<sup>23</sup> found that a compulsory policy intervention (set-aside) that had been introduced in the 1980s to tackle over-supply in the cereals sector had also created environmental benefits through the rotational option of taking land out of production (e.g. nesting sites) and also more longer-term habitat enrichment by, maintaining through extended periods, areas of uncropped land (e.g. species rich grassland for bees and butterflies etc). The ending of set-aside within the European Common Agricultural Policy meant that these environmental benefits could be lost and options were considered to 'capture' these benefits for the future.



<sup>23</sup> <https://statistics.defra.gov.uk/esg/ace/setasidedefault.htm>

## Rationale for intervention

There were two realistic policy options. The first was direct regulation requiring, as part of cross-compliance, a small percentage of arable land to be left as uncropped. The second option was a voluntary approach with farmers avoiding the element of compulsion with representative bodies responsible for outcomes.

## Outcomes

The 'traditional' approach would have been to regulate – this is what conservation groups wanted and meant that issues such as 'free-riding' or disproportionate costs were less relevant. However the longer term objective of policy was to encourage farmers to take more responsibility for the future across many areas e.g. disease management, performance and also environmental sustainability. This suggested that the voluntary option was the best approach - working co-operatively with farmers and landowners and through their representative bodies. Collective action between farmers, conservation groups, farming bodies and government fits with 'behaviour' theory. Arguably as well as providing public benefits, a voluntary approach may provide benefits back to the farmer / landowner (provider) through a recognition of doing their bit (by farming peers and representative bodies) but also hopefully in seeing tangible benefits of their voluntary action such as more farmland birds. There is an incentive to comply as it will be a good model for the future.

The voluntary option outcome fits with models of influencing behaviour and it is anticipated that this approach will be able to act on all key behaviour drivers:

- acting on **attitudes / cognition**. This is essential for embedding longer-term attitude shift but also in terms of evaluation of outcomes perhaps embodied by trust and transparency in outcomes;
- establishing **habits**. Recognition that 'doing your bit' is part of maintaining environmental assets and achieving range of benefits. Also critically, establishing that land left uncropped is not an indication of failure to be a 'good' farmer. Uncropped land or managing areas for environmental benefits will become part of farming system;
- addressing **personal capacity / cognition**. A voluntary framework allows farmers to choose options that most suit their land / circumstances and even year. In other words it seeks to fit with the farm business and individual preferences;
- re-enforcing **social norms**. This helps with a recognition amongst farming peers that positive environmental management decisions for example leaving a skylark patch or field margin is not an indication of a blocked drill or poor crop protection. It shifts the perception of farming styles and acceptability of environmental practices. Doing something for the environment (and not being paid) is no longer something for farmers on the margins of the mainstream and part of a competitive business as much as a 'custodian'. Shifting the concepts of good farming also helps embed longer-term change and a partnership approach with farming bodies taking a leadership role (and some elements of social pressure) through networks and social norms is a key outcome from a partnership approach towards collective action;

- the role of **external factors**. Although there are some monetary and time costs the voluntary approach does seek to minimise direct regulatory burdens but if the approach is not successful there is a regulatory fallback option. Research is planned to quantify the lower costs of a voluntary approach (when compared to a compulsory requirement). Although no incentive payments are made, the Campaign complements existing an existing agri-environment scheme and may stimulate uptake in the area payment based Stewardship scheme, especially where there are shared environmental objectives.

The Campaign was announced in July 2009 and was warmly welcomed by all (conservation bodies, farming unions, delivery partners etc) as a way of working in partnership and demonstrating trust and responsibility. Work is now in progress on a monitoring and evaluation programme, in partnership with industry. This is assessing tangible outcomes, e.g. amount of land under different management options, and will extend into longer-term monitoring of attitudes and embedding as a habitual part of farm management. It is anticipated that positive attitudes will extend good management practices across the whole farm to benefit both the farm business and the environment. This is a good example where a policy decision and implementation option can be seen to be following a behaviours approach. The monitoring and evaluation programme will test whether the theory does translate into practice as farm surveys get underway. Working in partnership and maintaining trust demonstrates the importance of robust and transparent evaluation methods.

#### **Sustainable Development Diamond / 4Es**

**ENCOURAGE:** incentivising desirable behaviour (threat of future legislation)

**ENABLE:** addressing habits to make positive actions routine. Takes account of cognition in terms of tailored options (to suit individual capacity / preferences)

**ENGAGE:** a campaign that appeals to business sense as well as emotions and uses role models and trusted intermediaries / advisors

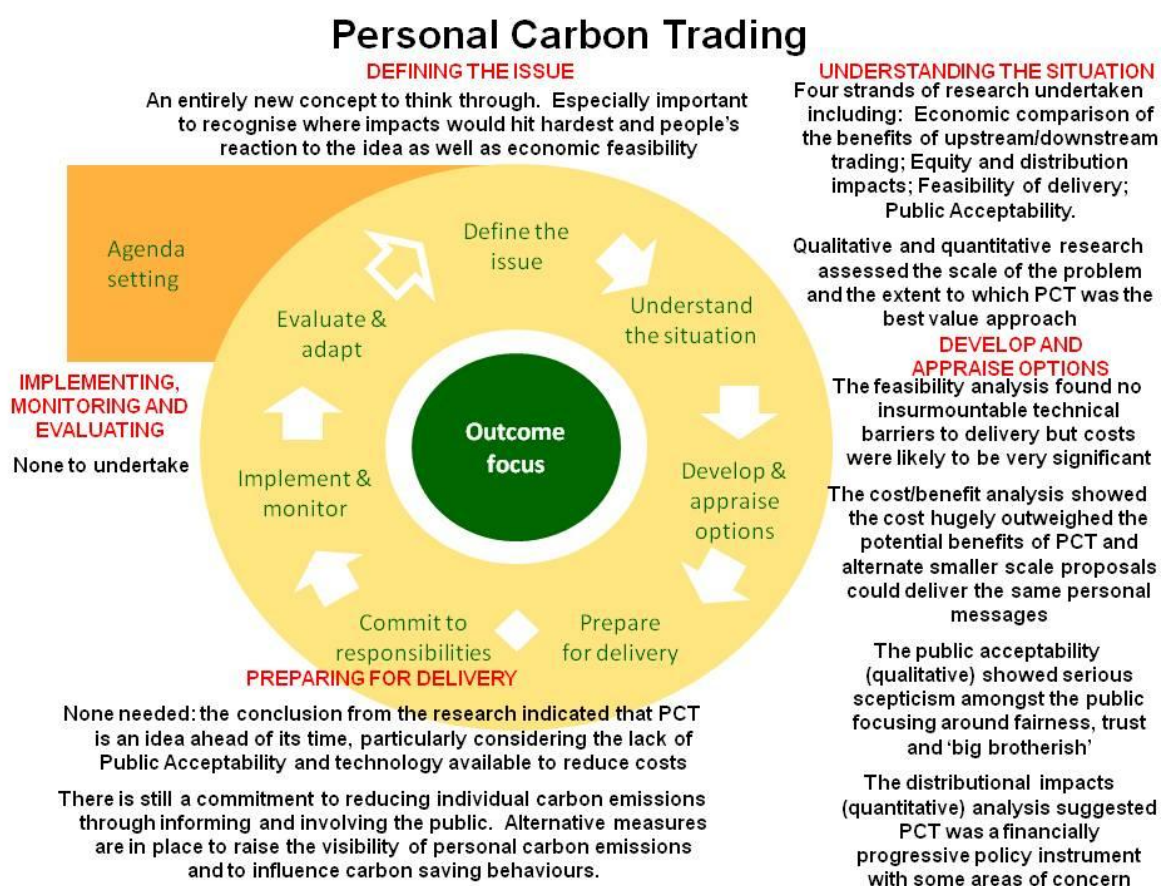
**EXEMPLIFY:** a partnership that galvanises emerging norms around shared environmental goals

## CASE STUDY 5 – PERSONAL CARBON TRADING

On occasion, the analyses at the early stages of the policy cycle demonstrate that the best way forward is to *not* develop a policy. This case study presents an interdisciplinary approach to understanding a potential policy and assessing its feasibility.

### Background

The concept of ‘Personal Carbon Trading’ (PCT) was considered as a potential way to reduce the carbon impact of people’s everyday behaviour (e.g. heating a home and water, travel and food shopping) which account for about 40% of UK carbon emissions. It was argued that PCT works across the 4Es – to **engage** through raised awareness of carbon amongst the population, to **enable** individuals to manage their own carbon emissions, to **encourage** through price signals, and to **exemplify** by all citizens having the same constraints. PCT was envisaged as a scheme that would apply a combination of economic mechanisms (e.g. carbon price signal, personal incentive to gain through maximising profits) and behavioural mechanisms (e.g. raising visibility and awareness of carbon, developing a social norm around carbon use) which would ultimately reduce high carbon emitting behaviours directly within an individual’s control.



## Rationale for intervention

The rationale for developing a Personal Carbon Trading Scheme lay in the evidence that raising individuals' awareness of high carbon emissions and putting a price on behaviours would result in a 'behaviour change'. Importantly it meant that people could continue with their preferred behaviour (things would not be banned) and gave people with low carbon lifestyles an opportunity for financial gain by trading with people who chose (and could afford) to be more profligate.

## Outcomes

The project was a pre-feasibility study considering a number of core issues to assess the value of furthering the policy. Four work-streams provided evidence:

- i. The Potential Effectiveness and Strategic Fit of Personal Carbon Trading. The cost/benefit analysis presented the challenge to PCT due to costs outweighing estimated benefits (in terms of reduced personal carbon emissions). Alternative approaches could equally deliver the same effects, through raising awareness of carbon impact of a behaviour and costing appropriately. It was recognised that there were circumstances where the Cost-Benefit Analysis (CBA) may shift and make PCT cost-effective such as a significant reduction in delivery costs or a major change to the price of carbon. Conclusion – policy was possible but would this would rely on exploring alternative scheme designs;
- ii. The Equity and Distributional Impacts of Personal Carbon Trading. The distributional impacts were considered through interrogation of quantitative data. Particular consideration was paid to low income households and the rural/urban difference. Careful design of a PCT scheme design could address equity issues as well as using other existing support mechanisms system. Conclusion – the policy was possible with careful consideration of groups that might be unfairly impacted to apply weighted allocation or other support;
- iii. The Technical Feasibility of Personal Carbon Trading. No insurmountable technical barriers were identified in introducing a carbon trading scheme although costs could be very significant. Set up cost estimates ranged widely (from £700m to £2bn) with running costs between (£1- £2bn per annum). Conclusion – it is likely that cost reductions would be sought should the scheme be taken forward and a further cost benefit analysis would be necessary;
- iv. The Public Acceptability of Personal Carbon Trading. Public acceptability of PCT was extremely low. Concerns about the scheme for members of the public ranged from the impact on vulnerable groups, fears around the complexity of the system, scepticism over fairness and lack of trust in government to manage the scheme or deliver the associated emissions reductions. In addition, there was no evidence that people would trade their 'credits' which was a crucial element of success. Conclusion – a PCT scheme would face considerable challenges as a means of engaging with the public. Should the scheme go ahead very considerable input to educating, supporting and informing the public would be necessary to both reassure their concerns as well as to enable trading.

PCT remains a potentially important way to engage individuals but it is viewed as an idea ahead of its time in terms of public acceptability and the technology to bring down the costs. There are significant challenges to address should it deliver its potential as a policy tool to reduce personal carbon emissions. A watching brief is maintained, which has potentially saved in excess of £3bn in taking forward a feasible but unacceptable project, as well as avoiding significant reputational damage.

## CASE STUDY 6 – SUSTAINABLE CLOTHING ROADMAP

This exemplar illustrates how gathering evidence at the early stages of the policy cycle can be used to facilitate and harness support to secure voluntary commitments to take action by stakeholders (as an alternative to using more traditional methods such as regulation). This exemplar presents how evidence on public understanding, barriers and motivations on clothing was one element that led to securing buy-in, support for, and continued commitments from stakeholders within the Sustainable Clothing Roadmap.

### Background

Clothing has a significant environmental and social footprint across its supply chain which is exacerbated by high consumption levels. In the UK alone, approximately 2 million tonnes of clothing are purchased per annum, with the fast/discount fashion sector making up one-fifth of the UK market. The environmental impacts are numerous and wide ranging, and include energy and water use from washing and drying clothing; toxicity, hazardous waste and energy consumption associated with the production of clothing, and 1 million tonnes of clothing waste per annum (with only 24% recovered).



## **Rationale for intervention**

The Sustainable Clothing Roadmap is a voluntary clothing industry initiative co-ordinated by Defra. It provides a framework through which Defra can enable and encourage clothing and fashion stakeholders to work together to make improvements across the supply chain through their own operations and thereby fast track best practice. The Roadmap has five action areas including work on consumption trends and behaviour. A critical dimension of the work to date has been to invest in establishing sound evidence on key impacts to inform decisions on where action could be taken to be most effective, in order to encourage stakeholders to agree to taking action on priority issues.

Consumers have a key role to play to reduce the environmental impacts from the decisions made when purchasing clothing, cleaning and using items, and when disposing of them. Yet little was known about individual consumers' level of understanding and awareness of sustainable clothing, and what is likely to motivate them towards more sustainable patterns of purchase and use. Framing the issue and providing the evidence base to enable people to understand the issue is central to facilitating support from stakeholders to take action. A lack of evidence on consumers and sustainable clothing meant that this dimension was not being fully considered within the Roadmap and was a barrier to securing commitments amongst roadmap stakeholders on consumer behaviour.

Research was needed to clarify public understanding, aspirations and motivations in respect of sustainable clothing. Research was undertaken to gauge consumers' understanding of the concept of 'sustainable clothing'; identify consumers' assumptions concerning "good" clothing and to assess how people interpret and relate the concepts of 'sustainable clothing' and 'good clothing'; assess consumers' ability to adopt more sustainable patterns of clothes consumption, and understand how ideas and attitudes linked to sustainability interlock with consumers' everyday habits, routines and aspirations. This work explored how acceptable the public would find measures to lessen the sustainability impacts of clothing production, use and disposal in the context of Defra's Sustainable Clothing Roadmap, and the likelihood of such measures changing people's behaviour.

## **Outcomes**

The Roadmap approach recognises the potential to be gained by encouraging and enabling a range of stakeholders to work together to facilitate change on a voluntary basis. More traditional policy mechanisms (such as regulation) are not always available or appropriate, particularly where viable alternatives can be found such as those being explored through the Roadmap. Framing the issue and providing an evidence base to enable people to understand the issue was central to facilitating support from stakeholders to take action. Critically, the research was instrumental in helping understand the situation and demonstrate the importance of considering consumer behaviour when developing actions within the Roadmap, but also in terms of helping priorities areas for focus which took into account consumer acceptability and willingness to act.

The research has been used by a number of stakeholder organisations aiming to influence or communicate with consumers about sustainability and clothing, for example in the advice that is provided to consumers on Direct Gov.

**Sustainable Development Diamond / 4Es**

**ENCOURAGE:** creates a “market pressure” to take action, particularly where competitors are signing up.

**ENABLE:** stakeholders to take action in the priority areas, or areas where the evidence suggest there is greatest potential for change by consumers.

**ENGAGE:** through raising awareness of consumers understanding, motivations and barriers to sustainable clothing.

**EXEMPLIFY:** mechanism for stakeholders to demonstrate their commitments to action on sustainable clothing.

## Conclusions

Section 3 sets out a strong set of exemplars demonstrating how thinking about behaviours from an analytical perspective has shaped policy development within Defra. What is clear, however, is that there is not a magic approach that applies wholesale across Defra. The starting point for this discussion paper is that behaviours are complex and as a consequence considering them appropriately within the policy cycle can be time-consuming. Pioneering the development of our analytical approach has meant that we can share some key lessons for the future.

- (a) **A strategic approach to development of the evidence base.** The policy cycle can be time-pressured so a stock of intelligence to draw upon for ‘understanding the situation’ is needed. Investment in an in-depth evidence base, robust across different areas, enables timely and well-informed policy solutions to be developed and will reduce the need for commissioning short and focussed research studies to answer specific policy questions;
- (b) **Inter-disciplinary approaches are needed to *inform* behaviours.** All the analysts involved in this paper recognise that single discipline analysis will not adequately inform policy development. Understanding behaviours requires evidence to cover internal and external factors influencing decisions e.g. from unlocking habits to pricing impacts;
- (c) **Inter-disciplinary approaches are needed to *influence / change* behaviours.** Behaviours are complex and ‘nudging’ takes time so a combination of interventions to enable, encourage, engage and exemplify is essential;
- (d) **Multiple interventions are more successful.** The effectiveness of single interventions in isolation is not as great as combining ones that impact on internal, external and social factors and work in different ways for different segments of the population. Economic instruments can provide the stimulus for change with communication and choice editing shaping successful uptake.

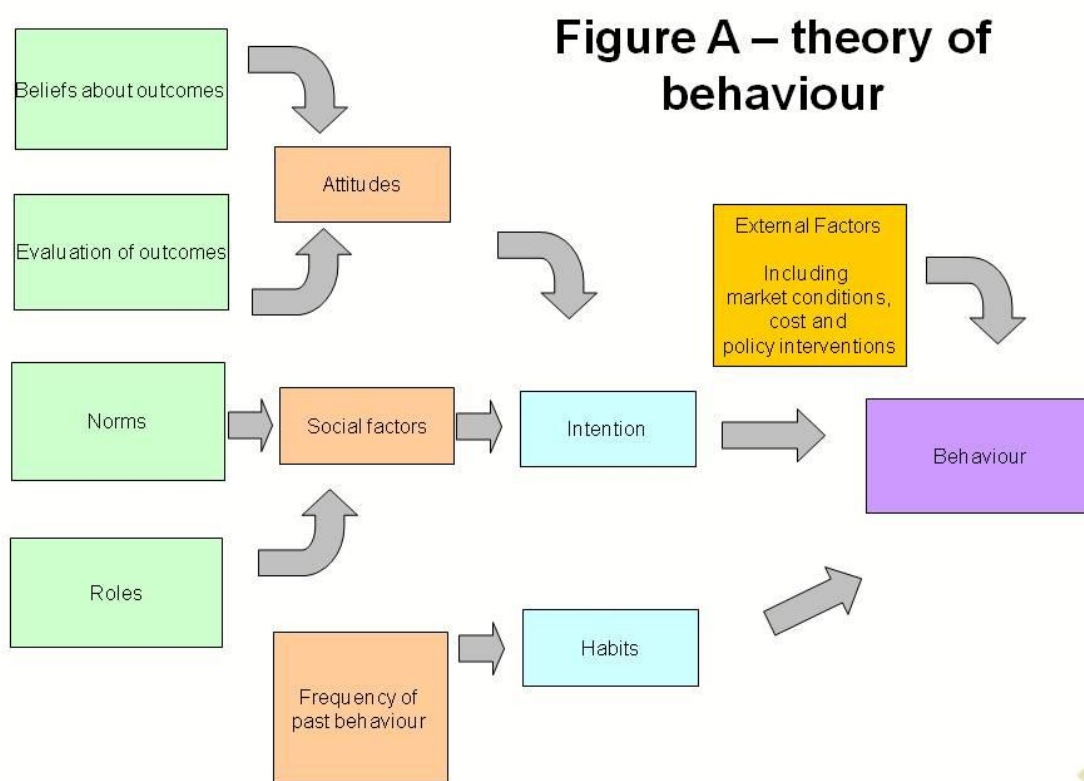
Despite some real success at influencing policy, we can always take steps to improve as a department truly (and transparently) successful in behaviour change.

- (a) **Invest to strengthen capacity and knowledge transfer.** The Sustainable Behaviours Unit has successfully shown how by building a strong evidence base it is possible to be informed and influential across a range of policy areas. Investment in both a bedrock of research and analysis and the experience of researchers takes time but delivers timely results and it is important to develop expertise and knowledge more broadly to cover Defra’s key customer groups. The importance of knowledge transfer is critical as many of the lessons are applicable across policy areas so the ‘understanding the issue’ need only be supplemented by analysing the options for intervention;

- (b) **Embedding behaviours thinking as an automatic part of policy-making where the policy target / customer is central.** This is the key to success and again takes time. Whilst there has been success in influencing key policy groups there are still real opportunities in influencing across Defra. This embedding will be multi-faceted but would include promoting uptake and use of key behaviour change ‘tools’;
- (c) **Monitor and evaluate what works.** This is perhaps the most critical issue to address. To date much analysis has been based on theoretical assumptions and research but real success will only come with actual, and measurable, behaviour change. In this respect we need to continue to monitor both attitudes and behaviours both from a social survey perspective but crucially in terms of actual purchasing or actions;
- (d) **Knowledge transfer.** Good links exist with some government departments but there are further opportunities for knowledge transfer to promote best practice and share existing evidence and approaches. This outreach should also extend beyond Whitehall to include drawing on experience both in academia (through the ESRC) and also within local authorities and delivery partners.

**Annex 1. Four behaviour models referred to in the paper.**

**Theory of Planned Behaviour / Reasoned Action.** Over the last few decades there have been countless ‘theories of behaviour’ which have been tailored for the academic literature, adapted for policy or used within the discussion of catalysing change. The simple, robust and easily adapted models forming the basis of the Theory of Planned Behaviours (TpB) and Theory of Reasoned Action (TORA) are, perhaps, the most relevant for thinking about policy and the linking of underlying psychological issues. These two models discuss, in relatively simple terms, the main internal or external social influences on behaviours (habit, social norms) etc. In attempting to describe something as detailed and variable as behaviours it is always easy (and tempting) to over-complicate, ending up with complex systems that are too difficult to embed into policy design and delivery. Joining TORA and TpB can provide a conceptual framework for exploring attitudes and intentions where a particular behaviour is a function of attitudes, the extent to which the views of others matter (social factors), past behaviours and the degree to which it is actually possible. Intention is facilitated by external (government) measures and incentives to undertake the desired action. Figure A describes the basic approach which identifies four basic components of behaviour – attitudes, social norms, habits (internal factors) and external factors (including cost and policy interventions).

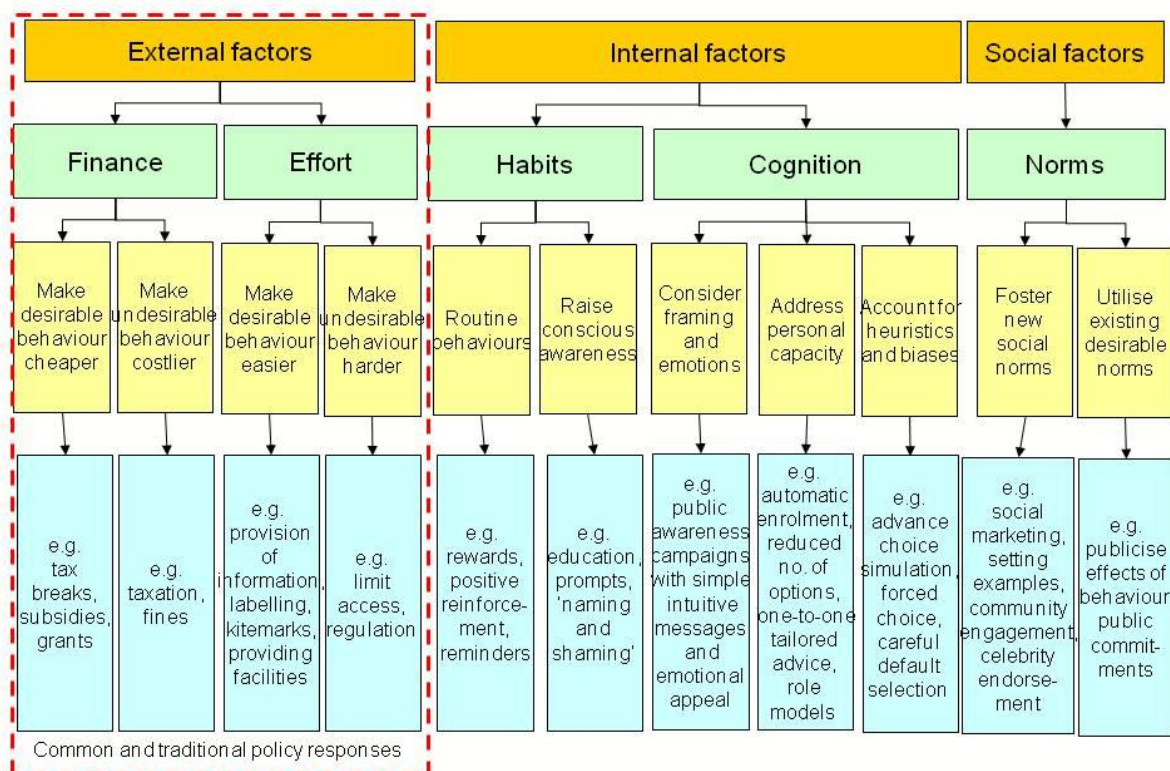


**Model adapted from Theory of Reasoned Action and Theory of Planned Behaviour**



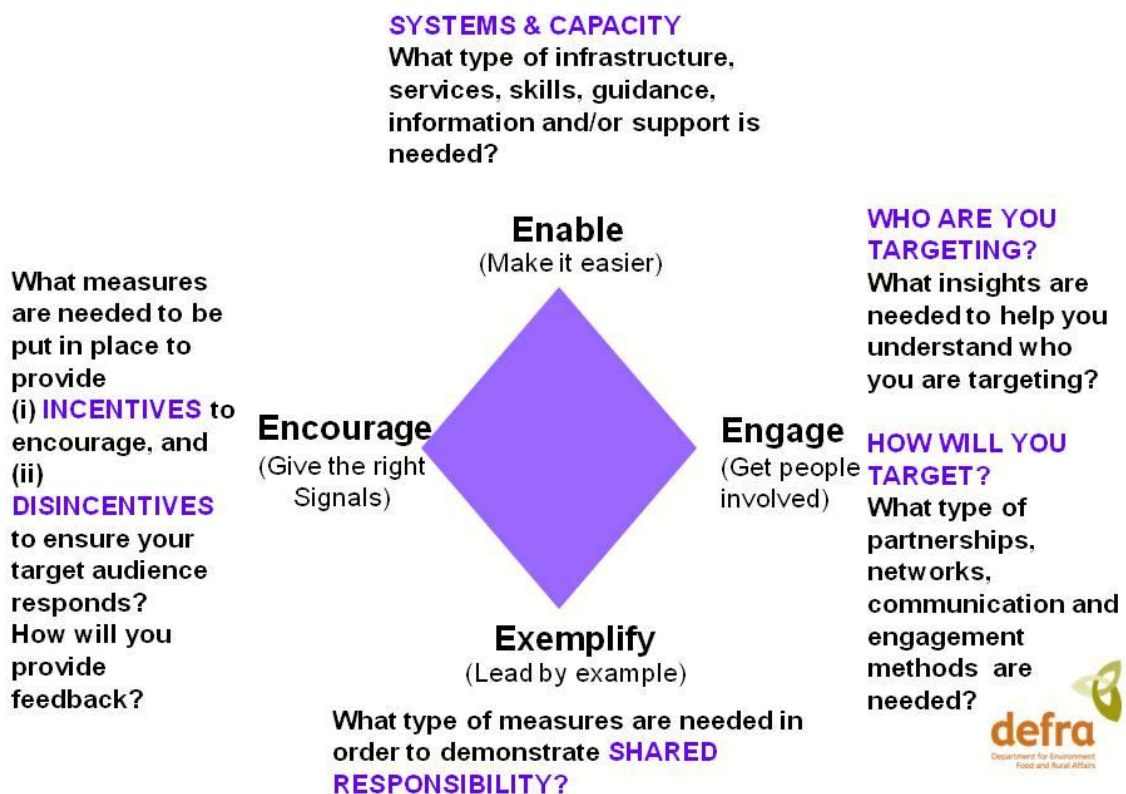
**A broad interpretation of behavioural economics.** Behavioural economics perhaps provides a common language that bridges economics, sociology and psychology and provides a link to policy-making that looks beyond the traditional approaches of regulations, market-based instruments and addressing information barriers. It seeks to examine individual decision-making and the implications for policy modelling. The theoretical basis fits with social theories and the two previously illustrated models. A relevant diagram is in *Creatures of Habit? The Art of Behavioural Change* (Social Market Foundation, 2008) and Figure C is reproduced almost exactly from that report. Like Figure A, there are three main components (internal, external and social factors) and these are assessed individually in terms of intervention options. The diagram clearly shows where traditional market-based interventions have operated (primarily on external factors) and the clear recognition of the role of cognition (framing / emotions, personal capacity and accounting for heuristics / biases) adds an important new dimension.

**Figure B - SMF behavioural economics approach**



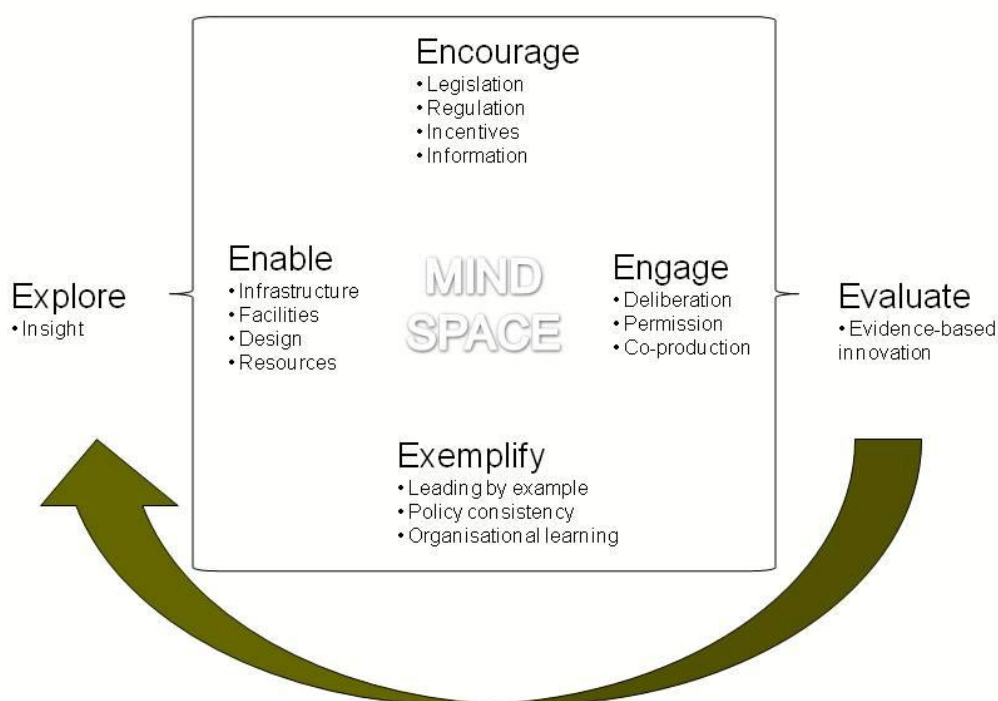
**The 4Es approach.** A concise behaviours approach in a policy context is contained within 'Securing the Future' the UK Sustainable Development Strategy (Defra, 2005). It is argued that for successful (and sustainable) government intervention there needs to be a balanced approach addressing both **internal and external** barriers to change through the '4Es' - **encouraging** (incentives and disincentives), **enabling** (facilitating through addressing infrastructure etc.), **engaging** (influencing underlying attitudes and motivations) and **exemplifying** (government taking wider action either on our performance e.g. buying local produce or influencing others e.g. climate change).

**Figure C - Sustainable Development Diamond / 4Es**



**MINDSPACE and 6Es – the IfG approach.** A detailed public policy and behaviours guide is presented within ‘*Going with the grain: influencing behaviour through public policy*’. This brings a fresh policy-orientated focus to characterising the contexts for individual decision-making. This paper draws on both the psychology and new behavioural economics approaches and highlights those areas where policy needs to act upon to achieve change. The model presented complements the discussion within this paper. A key addition to the discourse is the extra two ‘E’s – **evaluate** and **explore** that fit with those presented above. This enables the approach to be linked explicitly to Defra’s policy cycle where ‘**explore**’ provides insight (understanding the situation) and ‘**evaluate**’ completes the policy cycle back to explore. In this way, the key tools for policy design and delivery are linked explicitly with the evidence base.

**Figure D - IfG Going with the Grain ‘MINDSPACE’**



MINDSPACE provides a quick checklist of those key influences on behaviour that need to be understood and acted upon. MINDSPACE includes **Messenger** (who communicates the information), **Incentives**, **Norms**, **Defaults** (go with pre-set options), **Salience**, **Priming**, **Affect**, **Commitments** (reciprocity is important), **Ego** (people act in ways to make them feel better about themselves).