

Behaviour Change: A Series of Practical Guides  
for Policy-Makers and Practitioners

Number 5

# Understanding Choice

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Defra has commissioned and funded this study, but the views expressed in this guide do not necessarily reflect Defra policy.

# 1. Introduction to the series

Defra's 5 year strategy – (*Delivering the Essentials of Life*<sup>1</sup>) coupled with the UK Government sustainable development strategy (*Securing the Future*<sup>2</sup>) set out an ambitious agenda for environmental leadership and sustainable development. Embedding these core principles relies on influencing change and making it easier for producers and consumers to behave more sustainably. This is a sizeable task, since changing behaviours is a complex matter and innovative solutions are required.

In July 2005, Defra initiated a programme of research that aimed to broaden understanding of how Government (and others) can most effectively promote pro-environmental behaviour amongst producers and consumers. Several studies were commissioned as part of this research programme, each with a different remit to explore a unique aspect of pro-environmental behavioural change.

This practical guide forms part of a series of papers that aims to summarise the key findings and policy implications from these studies.

A full list of titles in this series is provided below:

- Number 1: Sustainable Resource Use in the Home
- Number 2: Targeting Specific Lifestyle Groups
- Number 3: Sustainable Development as a “Collective Choice” Problem
- Number 4: Triggering Widespread Adoption of Sustainable Practices
- Number 5: Understanding Choice
- Number 6: Sustainable Shopping and Sustainable Production
- Number 7: Enhancing Sustainability at Farm Level
- Number 8: Tackling the Waste Challenge
- Number 9: Encouraging Sustainability Amongst Small Businesses
- Number 10: Sustainable Resource Use in Business and Organisations

<sup>1</sup> Defra (2004) *Delivering the essentials of life: Defra's five year strategy*, London: HMSO.  
See <http://www.defra.gov.uk/corporate/5year-strategy/index.htm>.

<sup>2</sup> Defra (2005) *Securing the Future: UK Government Sustainable Development Strategy*, London: HMSO.  
See <http://www.sustainable-development.gov.uk/publications/uk-strategy/index.htm>.

## 2. Project summary

The premise of this research was that choices made during production and consumption are of primary importance to the sustainability debate. Producers choose to use resources in a way which may or may not be sustainable. Consumers choose to buy products which may or may not be sustainable in their use of resources. Such choices are important throughout the life span of a product, service, or utility from production, to purchase, to consumption and disposal. It is these choices which must take into account environmental pressures and sustainability issues over and above aesthetic appearance, must-have branding and basic functionality. *The question therefore is how to make sustainability an automatic and primary part of producer and consumer choice, rather than a self-satisfying added extra.*

This research investigated **three alternative approaches** to achieve behavioural goals of sustainable consumption and production:

- restricting choice, constraining freedom;
- using social networks; and
- provoking emotions.

### Why these approaches?

Almost 30 years of research indicates that influencing attitudes rarely results directly in behaviour change. But evidence also suggests that:

- behaviour change can precede attitude change;
- identity processes and social influence and cohesion processes alter behaviour; and
- mood and emotion have a large impact on behaviour which research has overlooked.

The aims of this research were:

- to develop innovative approaches to explain and change unsustainable producer and consumer behaviour;
- to identify evidence to support the proposed approaches both within and beyond the environmental context;
- to design inventive, ground breaking yet practical projects building on the contemporary approaches identified; and
- to establish a series of evaluation criteria to measure the impacts and successes for each initiative.

### How was this achieved?

Two multi-disciplinary workshops were convened inviting experts in the field of influencing and understanding behaviour, to table evidence in support of each of the three suggested approaches to sustainable consumption and production. Models for future research were developed from the workshop findings.

## 2. Project summary

### Other Project Outputs

The research team have delivered two reports:

1. Choice Matters Final Report (including executive summary). Report to Defra by Uzzell, D., Jackson, T., Ogden, J., Barnett, J., Gatersleben, B., Hegarty, P., Muckle, R., Papathanasopoulou, E. See [http://www.defra.gov.uk/science/project\\_data/DocumentLibrary/SD14008/SD14008\\_3518\\_FRP.doc](http://www.defra.gov.uk/science/project_data/DocumentLibrary/SD14008/SD14008_3518_FRP.doc)
2. Choice Matters Technical Report. Report to Defra by Uzzell, D., Jackson, T., Ogden, J., Barnett, J., Gatersleben, B., Hegarty, P., Muckle, R., Papathanasopoulou, E.

### Evidence from Elsewhere

Workshop 1 reviewed evidence to support each of the three alternative approaches to achieve the behaviour goal of sustainable consumption and production.

#### Restricting choice, constraining freedom

It is generally assumed that more choice is a good thing. However, there are many examples, within and beyond the environmental context, where behaviour change has been enforced (i.e. choice is restricted) and has subsequently led to changes in attitudes (e.g. banning smoking in public places for public health improvements).

Although behaviour change, driven by regulation, legislation and penalties can be very effective in producing results, it is often avoided as it is assumed that people want choice not legislation, and freedom not a “nanny state”.

Evidence suggests that there is a strong argument for the need to ‘kick start’ change through regulation. The example shown in Case Study 1 suggests that people are willing to change, but feel unable to do so. It takes a complex problem (obesity management) and shows it is not enough just to tell people what to do and how to do it. In this quote from Jane Ogden the words ‘obesity epidemic’ could be replaced with the words climate change. It illustrates the urgency to do something:

*“It would be dreadful if the obesity epidemic continued because we did too little  
It would be disastrous if it continued because we feared doing too much.”  
(Ogden, 2005. pp.226)*

#### Case Study 1: The Paradox of Control in Managing Obesity Management, (Ogden, 2005).

Managing obesity has proved to be an enormously complex challenge. The behaviour to understand, eating, is based on a massive range of beliefs, traditions, contexts and habits. Health professionals often treat obesity through psychological routes. The principle is that by offering choice, patients will understand the root cause of their obesity and take control of their problem.

Evidence shows that these interventions have not been successful. Obesity has steadily increased over the last 30 years, parallel to campaigns about healthy eating and the need for exercise. Added to this, society and the environment in which we live create barriers to change, for example food portions are getting bigger, we drive to out of town shopping centres, healthy food and fitness are expensive options. This ends up perpetuating obesity.

Non-psychological solutions to obesity management are often conceptualised as ‘letting people off’, ‘controlling’ or, horror of horrors, ‘the nanny state’. Obesity surgery is often thought of as not getting to the root of the problem and so inappropriate: choice is taken away from patients and decisions are made on their behalf. However, results of recent studies suggest that surgery not only results in dramatic weight loss, but alters the way in which people think about food: there is less preoccupation with food; people feel more in control of what and how they eat. Hence, the paradox of control. By taking choice and responsibility away from the individual through surgery, people regain the control that they had lost and achieve behaviour goals.

### 3. Key findings

#### Using Social Networks

People will be influenced by, and respond to, many different stimuli which accounts for of the difficulties in developing strategies and policies to influence views and behaviour.

A social network approach to influencing behaviour was explored in this research context to realise further the role of social networks as anchors of identity and behaviour which in turn effect decisions impacting on consumption and production.

Evidence suggests a social networks approach is a good framing for future research as it deals with the adoption of new behaviours rather than thinking about attitudes and perceptions. Increasing sustainable consumption and production could be conceptualised within the context of the diffusion of innovation – the spread of a new idea from the early stages when few people adopt the innovation to the time when almost all members of society accept it.

**The notion of social networks is a key to understanding diffusion of innovation as it helps understand who influences whom. Case study 2 highlights the importance of identifying key people and facilitating communication within their social networks.**

#### Case Study 2: Changing Eating Habits during World War II (Wansink, 2002).

Recently available World War II research reflects on lost lessons which, should they be applied to eating habits today, may trigger effective changes towards positive behaviour goals (e.g. eating more fruit and vegetables).

During the Second World War, the American government recognised that influencing people to eat whatever was available (e.g. offal) was an essential contribution to the war effort. Psychologists such as Kurt Lewin and Margaret Mead believed that the primary need was to identify and reduce consumption barriers such as food types being conceptualised as animal food, or for people who could afford nothing else). Crucially, they recognised the central role of a 'gatekeeper' e.g. a housewife, who controls a household's consumption through growing food, shopping and cooking and at whom initial efforts for behaviour change were directed.

A person's primary reference group (others with whom a person has strong emotional ties and frequent personal interactions), was found to be the greatest influence over the food types that they are prepared to eat. Gatekeepers attended social gatherings where they were shown how to prepare and present a meal from the target food and shown that it tasted good. These gave the opportunity for people to communicate about the target food amongst their peers, friends and neighbours (their social networks). The strongest effects occurred when people participated in discussion groups and publicly acknowledged the intention to buy, prepare and serve the new food, over and above receiving information through a lecture or even on a one to one basis. Lewin concluded that experiencing new foods with a group and hearing the response of others first hand was the most effective way of introducing a new behaviour.

The wider lessons from this World War II research are still valid and alive to today's researchers. Using social networks to create social norms and change the acceptability of a behaviour proved to be very successful and a viable method to achieve behaviour goals.

## Provoking Emotions

The role of emotions and state of mind has been largely overlooked in research even though preliminary work suggests that 'affect' both positive and negative, has a powerful impact on behaviour (Kals and Maes, 2003).

Evidence suggests that sustainable behaviour can be substantially explained by moral emotions. Previous research has often focused on the role of negative emotions (such as fear) which plays a part in the encouraging more positive environmental behaviour. However, recent transport research has shown that positive emotions play an important role in travel behaviour: the emotions evoked by travelling relate to people's preference for a particular transport mode.

Case study 3 describes an experiment which evoked the emotion of fear as a basis for attitude change. It clearly shows that emotions have a part to play in encouraging sustainable consumption and production.

#### Case Study 3: Fear and its Role in Changing Behaviour (Meijnders, Midden, and Wilke, 2001).

Lessons learnt through research into risk communication clearly indicate that what a message actually says carries only limited impact. The credibility of the message source and personal relevance are just as important to the message's success. New research indicates that the role of emotions also plays an important part in people's responses. These emotional responses may be unintentionally or deliberately provoked. Either way, understanding the role of emotions in decoding messages is key to future plans to influence behaviour.

Risks associated with the production of CO<sub>2</sub> appear to be misunderstood by the general public especially the relationship between climate change and the combustion of fossil fuels and the need to conserve energy. The models framing this research accept two levels of communication processing:

- systematic processing which requires careful thinking and evaluation of the arguments presented and results in more stable attitudes firmly related to behaviour; and
- superficial processing under which communication can be evaluated with little thought relying on cues such as the expertise of an information giver or the trustworthiness of the message source.

Systematic processing depends on a number of motivational factors: emotion and mood have been found to be of influence.

The research described examined the extent to which negative emotional responses influence systematic processing. It was thought that when a person experienced a negative emotion related to climate change they would be more likely to systematically process information about energy conservation as a mitigation strategy.

Fear was confirmed as an important construct in influencing responses to information and it was concluded that negative emotion increases the extent to which information is systematically processed. The induction of fear was also influential over time. In generating fear appeal messages it should be remembered that risks associated with the environment are generally more likely to elicit low fear levels compared for example with public health issues. It is difficult to visualise a threat that is not immediately threatening in terms of personal proximity or time.



## 4. Policy implications

This research has cross-cutting relevance to both the Sustainable Development Strategy (2005<sup>3</sup>), and Defra's Framework for Sustainable Consumption and Production (DEFRA 2003<sup>4</sup>) as well as the work of many other Government departments, such as DTI, DfT and DCLG.

The Sustainable Development Strategy specifies sustainable consumption and production as one of four agreed priorities. Furthermore Defra's Five Year Strategy, *Delivering the Essentials of Life* (2004<sup>5</sup>) highlights changing behaviours and the need for producers and consumers to adapt. It recognises that the sustainable consumption part of the framework in particular is underdeveloped.

Government has recognised that it will be necessary for people to make different choices in order to achieve sustainable consumption and production and that there may be instances when government may have to act as a catalyst in order to ensure change – be it engaging communities, implementing incentives or leading by example. Equally, it acknowledges that the time has come for action rather than continued talking about sustainable development and this research advises three alternative ways to proceed.

Defra other government departments have recognised areas where answers are needed ('Evidence and Innovation', 2004<sup>6</sup>; *Securing the Future*, 2005). A number of questions are raised in those documents which pertain to sustainable consumption and production which this research seeks to address and which will contribute to an updated plan of action.

There is a need to:

1. understand how social and political processes and economic incentives can best deliver change;
2. identify suitable policy tools which provide appropriate incentives to producers and consumers to modify behaviour and hence, decouple environmental impacts from economic growth;
3. determine what drivers and trends will be important, what will be their long term consequences and what will be the likely societal response;
4. know how to negotiate agreements to reach long term goals;
5. understand the surrounding issues more clearly in order to implement change;
6. understand what influences consumer behaviour and how can change be achieved;
7. understand where, in production, policy/regulatory/voluntary initiatives are most likely to succeed;
8. understand how producers and consumers can be influenced to use less and waste less;
9. identify how unintended negative consequences can be identified early and responded to;
10. clarify what needs to happen to enable consumers to make sustainable choices;
11. recognise how sustainability can become a driver of innovation in design and production and why businesses do not follow up opportunities for increased resource efficiency; and
12. understand the social and cultural influences which shape consumption choices.

<sup>3</sup> *Securing the Future. The UK Government Sustainable Development Strategy. 2005.*

Available at <http://www.sustainable-development.gov.uk/publications/uk-strategy/uk-strategy-2005.htm>

<sup>4</sup> *Changing Patterns. UK Government Framework for Sustainable Consumption and Production. DEFRA 2003.*

Available at [www.defra.gov.uk](http://www.defra.gov.uk)

<sup>5</sup> *Delivering the Essentials of Life. DEFRA's Five Year Strategy. DEFRA 2004. Available at [www.defra.gov.uk](http://www.defra.gov.uk)*

<sup>6</sup> *Evidence and Innovation. DEFRA's needs from the sciences over the next ten years. Available at [www.DEFRA.gov.uk](http://www.DEFRA.gov.uk)*

### Gaps in Research, Questions to Answer and Policy Development

Gaps in the existing research were identified for each suggested approach. Research questions were developed to address each of these and the implication for policy development is indicated in each area.

#### Restricting Choice, Constraining Freedom

There is little research:

- on the circumstances under which less choice is acceptable to a consumer;
- on how acceptance to the loss of choice may vary according to the behaviour being restricted;
- examining the options through which behaviour can be changed without changing attitudes, beyond regulation; and
- on the length of time over which behaviour remains changed – i.e. does it eventually become permanent or habitual?

Research questions to respond to the gaps in research relating to restricting choice and constraining freedom include:

1. How acceptable is restricted choice?
2. Under what circumstances is restricted choice acceptable?
3. Under what circumstances is compulsion acceptable?
4. For what goods/services is restricted choice acceptable?
5. Is the assumption that 'more choice is good' correct under all circumstances?
6. How can 'less choice' be made appealing?
7. Does restricted choice impact (positively and/or negatively) on an individual's well being?
8. Is it necessary to have the perception of choice (control)?
9. When a behaviour is imposed, does the resulting attitude towards the issue become more positive?
10. To what extent is restricting choice associated with "Nanny State" government?
11. How can restricting choice and constraining freedom be presented in such a way that government is not accused of being the "Nanny State"?

The answers to these research questions would benefit policy development:

- by enhancing our understanding of the likely acceptability of certain policy decisions (e.g. regulating choice) and economic incentives (e.g. positive taxation on sustainable goods);
- by identifying the extent to which restricting choice could be an effective policy instrument by which behaviour (both consumption and production) could be changed;
- by determining how important restricted choice is as a driver to sustainable consumption and production and understanding the resultant attitude changes;

## 4. Policy implications

- by understanding the conditions under which restricted choice is acceptable and therefore knowing how to approach negotiations to allow restricted choice to be brought into action;
- by understanding the role of restricted choice in production and/or consumption and therefore being able to identify for what specific areas this approach will succeed; and
- by identifying the likely negative consequences (e.g. accusations of “nanny state”) and positive spin offs (e.g. a positive attitude change towards sustainable consumption) which result from restricted choice.

## Using Social Networks

There is little research:

- examining the role of social networks in encouraging sustainable consumption;
- relating to producers, although a social networks approach is suitable;
- on who influences whom and how, which could inform the diffusion of innovation;
- understanding the linkages and dependencies between social networks, in relation to the processes by which information spreads through society;
- on the process of making a behaviour ‘sticky’ and hence creating a long term/permanent change;
- examining who are the connectors, mavens, and salesmen (to use Gladwell’s ‘Tipping Point’ language) of sustainable consumption and production; and
- on the mechanisms of enabling a ‘tipping point’ such that change happens quickly and unexpectedly like a social epidemic.

Research questions which address the gaps in research relating to using social networks to achieve sustainable consumption and production include:

1. Who are opinion leaders?
2. Are these opinion leaders the same people regardless of subject matter?
3. When are opinion leaders most effective?
4. What is the role of opinion leaders on the adoption of innovation (e.g. sustainable consumption and production)?
5. Are opinion leaders different for producers and consumers (e.g. the influence of business gurus over celebrities)?
6. By what means is information diffused through a social network?
7. What is the social network of a producer?
8. What role does community play in the diffusion of innovation?
9. What are the difficult phases of diffusion?
10. At what point does an innovative concept become a social norm?

The answers to these research questions would benefit policy development:

- by helping to develop an understanding of the social influences (processes) which can lead to sustainable consumption and production;
- by identifying the extent to which social networks are suitable policy instruments to change behaviour towards pro-environmental consumption and production;
- by determining the importance of social networks as drivers for sustainable consumption and production and the stability of the resultant societal response;
- by knowing who is most influential in a social network and hence with whom to negotiate agreement for sustainable consumption and production;
- by planning for and making effective use of connectors, mavens, and salesmen to bring about behavioural change;
- by understanding who is most influential over consumer behaviour and how change can be achieved through social networks;
- by understanding through what channels initiatives are most likely to succeed; and
- by identifying where the potential barriers to diffusion and acceptance occur and hence attempt to avoid negative consequences (e.g. a change in consumption without increasing sustainability).

### Provoking Emotion

There is little research:

- as to how open emotions and moods are to manipulation;
- examining the influence of positive as well as negative emotions; and
- on the influence of emotions and moods on sustainable consumption and production behaviour.

Research questions to respond to the gaps in research relating to 'affective' responses to achieve sustainable consumption and production include:

1. What is the role of positive feelings and emotions in encouraging sustainable consumption and production?
2. What is the role of negative feelings and emotions in encouraging sustainable consumption and production?
3. How can sustainable consumption and production be made an instantly attractive option?
4. When behaviour is made taboo what is the outcome; does it become underground and exciting?
5. How can advertising examples be used to illustrate the use of 'affect' in changing image, persuasion, influence etc...?
6. What are the ethical issues surrounding the use and manipulation of 'affect'?
7. To what extent is consumption driven by 'affect' rather than cognition?
8. Do producers consider the role of affect during production or simply for post-production sales?

## 4. Policy implications

9. What is the role of 'affect' in automatising sustainable consumption and production?
10. Onto what dimensions could 'affect' be mapped (e.g. skill/challenge: where a highly skilled person is carrying out a low challenge their 'affective' response is boredom)?
11. What is the role of group affect in encouraging sustainable consumption and production (e.g. create pride in living in a 'Green City')?
12. What evokes feelings about a commodity (e.g. it has been made for you; it is thoughtful rather than 'just bought')?

The answers to these research questions would benefit policy development:

- by investigating how an important concept which plays a major part in consumption can be used to counter unsustainable consumption, and encourage long term behaviour change;
- by determining the strength of emotions as a driver towards sustainable consumption and hence being able to predict a positive societal response;
- by understanding the issues which provoke feelings and emotions and so could be negotiating points around which to achieve change;
- by understanding the role of emotions in consumer behaviour and how it can be used to stimulate change;
- by recognising the 'affective' means by which producers and consumers can be influenced to use less and waste less; and
- by identifying likely negative consequences and positive spin offs by ascertaining which commodities are linked to positive emotions and which are linked to negative emotions.

## Delivering Change

The research questions above indicate a raft of research requirements, all of which could usefully inform the under developed strategies focusing on sustainable consumption and production. It is essential that research programmes take into account the complexity of the behaviours being addressed.

The *Choice Matters Final Report* outlines an exemplar project using the example of influencing shoppers to buy locally produced food. The project is based on the approach of provoking emotions and would directly address sustainable consumption (e.g. through the reduction of air miles and supporting local food producers) and indirectly address sustainable production (e.g. through improvements to markets for British food suppliers). This project would aim to influence the general public and British food producers.

The example project suggests one application of this approach to address sustainable consumption and production. It could equally well apply to many other areas which link directly to the development of a sustainable economy, such as the purchase of other goods, the consumption of electricity and travel behaviour.

### Evaluation

The ability to evaluate projects, campaigns and strategies aimed at achieving sustainable consumption and production goals is essential to any research which will ultimately contribute to the development of policies.

Discussions during workshop one of this research identified the necessity to separate criteria for evaluation into two categories: academic related criteria and policy development criteria. This allows us to specify that a research project is sound scientifically and useful to the development of policy and is therefore a suitable framework upon which to base future policies. Inclusion of these evaluation criteria at the design stage will ensure that any project has a built in evaluation core ensuring that its effects are measurable over its lifetime.

### Aims

The ultimate aim of the example project would be to increase the consumption of locally produced food. Underlying aims reflect the smaller goals that must be achieved in order to reach this objective. These include understanding:

- the role of positive and negative feelings and emotions in the purchase and consumption of locally produced food;
- how to make the purchase and consumption of locally produced food an instantly attractive option;
- how feelings towards the purchase and consumption of locally produced food can be evoked;
- the extent to which the purchase and consumption of locally produced food is driven by emotion rather than cognition;
- the role of emotion in automatising the purchase and consumption of locally produced food; and
- whether producers consider the role of mood and emotion during production.

### Expected Outcomes

1. Increased purchase and consumption of locally produced food.
2. Wider use of farmers' markets.
3. Pressure on mass purchasing supermarkets to offer a wider and improved range of locally produced food.
4. Improved recognition of existing and/or new identifying symbols indicating food is produced in Britain (e.g. the Little Red Tractor).
5. Recommendations on the development of policies to encourage the purchase and consumption of locally produced food.

### Suggestions for further research

1. Develop action based research projects to measure people's actual resistance to change (e.g. under what circumstances is forced behaviour change acceptable?). Such research projects should assess the long term impact of forcing behaviour change and indicate at what point a positive response to the new behaviour comes into being.
2. Techniques employed in social marketing hold potential promise for behavioural change. We recommend such techniques be explored further in conjunction with recognised findings from research relating to social influence processes and social networks.
3. Identify which emotions are sympathetic to changing consumption and production and will be most likely to lead to behaviour change. We recommend that the emphasis should be on positive emotional responses to sustainable consumption and production, e.g. making people feel good about their behaviour rather than making people feel fearful of the consequences.
4. The identification of evaluation criteria (i.e. scientific and policy development) will ensure that projects, initiatives and strategies designed on these guidelines would have built-in methods to measure effectiveness, giving decision makers the reassurance that the evidence upon which policies are based is sound and robust.
5. Although the exemplar project described has focused on a small area of behaviour, the same approach could equally apply to the wider development of a sustainable economy such as the consumption of other goods, electricity and other energy, travel behaviour, waste reduction etc.
6. There is compelling evidence that the three approaches suggested, restricting choice and constraining freedom, social networks approach and emotional responses would be most effective in influencing behaviour change towards sustainable consumption and production.

# 5. Supplementary information

## Suggested Further Reading

- Uzzell, D., Jackson, T., Ogden, J., Barnett, J., Gatersleben, B., Hegarty, P., Muckle, R., Papathanasopoulou, E. *Choice Matters Final Report*. Report to Defra
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