

Behaviour change: theories, approaches, guidance

Introduction

People don't always act rationally, and not everyone thinks in the same way. The following guidance is long because behaviour change is not simple! However, understanding individual and group motivations and drivers is really important for designing approaches to encouraging take up of energy efficiency improvements. This is especially the case with the (so far un-tested) Green Deal initiative.

If you are planning local energy efficiency schemes and want to truly engage your community in making changes at a personal level, you will probably get the best results by really thinking through what approaches, interventions and messages are most likely to work. This resource is designed to help you to understand the reasons why people are thought to make the decisions that they do, and how understanding this can help you to set up a successful Green Deal or energy efficiency scheme.

This guidance note describes the main theoretical perspectives, the components of a hybrid type theory, leading into a model in section 2 which shows the inter-relationships between a range of factors in the model. This is to help improve understanding around what might make householders choose to take up a measure. The third section gives examples of how the ideas in the theory can be applied in practice in the design of a community scale energy efficiency scheme. Key points are summarised in the conclusion. The resource is based on extensive academic research as well as applied examples, referenced at the end of the document.

Background

There are many theories of behaviour change, mainly drawn from economics, psychology and sociology. These theories generally differ in terms of how much emphasis they place on the importance of the individual decision making versus wider forces such as social networks and physical surroundings that encourage us to behave in certain ways. The range of theory has arisen partly because of fundamentally different assumptions about the drivers of human behaviour and also because different types of behaviour actually need different theory to explain them. For example, habitual, sometimes unconscious behaviour such as turning lights off when leaving a room needs a different explanation from considered behaviour such as the decision to invest thousands in external solid wall insulation (SWI). Some theories have done a decent job in integrating the various views, producing a useful account of behaviour which can be used in many contexts.

Behavioural theory

Rational choice

Rational choice theory is the cornerstone of economic accounts of behaviour and remains the model most often used by policy makers. It proposes that most consciously motivated behaviour is driven by an individual's desire to maximise personal benefit having a systematically evaluated the options. Rational

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choice theory leads to the conclusion that the way to influence behaviour is to provide sufficient information about the various options so that a considered, rational choice is possible and to ensure that the desired behaviour clearly delivers the most personal benefits – usually in the form of financial benefits.

However, this idea has been criticised for a number of reasons, including, most importantly, that it does not seem to be very predictive of how people actually behave. Nor does it describe how what is considered ‘personal’ benefit originates and why some groups seem to value some things in very different ways to others. Having said that, in some situations we do display a kind of rationality, we are influenced by information and, in some contexts, we are primarily motivated to maximise our personal benefit. The theory of rational choice could be built on by taking into account the origins of our dispositions and the meanings of behaviour choices. This means considering lifestyles, social routines, habits, practices and how our choices are constrained and guided by our capacities and the social and physical infrastructure around us.

Habitual, unconscious and deliberative behaviour

This guidance concentrates on kinds of behaviour which have some conscious element to them as these are the behaviours of most interest in designing an energy efficiency scheme at community level. For example, the decision to invest in a measure, take a survey or simply turn up to a meeting are all examples of behaviours based on conscious decisions. Habitual and unconscious processes are also important for energy use but are much more difficult to target and influence in a community energy project. However, it may be the case that if energy efficiency improvements are made, habits will change accordingly as the new technology will tend to encourage certain types of behaviour over others and may also lead to changes in the way that the householder thinks about themselves (see cognitive dissonance below). These new patterns of behaviour may become habitual.

What a useful behavioural theory should account for

A useful theory must accommodate a number of features of conscious decision making. Firstly, a so-called ‘rational’ process calling on and evaluating all the available information is very difficult to imagine, particularly in our modern ‘information society’ where we are continually bombarded with information and calls for our attention. In these circumstances it is essential to have a means of filtering information and applying short cuts or ‘heuristics’ to make decision making easier, quicker and less onerous. These shortcuts are thought to have roots in our value systems and in deep rooted social psychological processes. Examples are our tendency to choose the middle option rather than the extremes or to place greater value on avoiding a loss rather than making a gain for the same financial sum. It is worth noting that many of these psychological processes may be unconscious yet they still form part of a larger process that has conscious elements to it – such as decision making about investing in insulation. So a behavioural theory should account for the kind of circumscribed rationality described above.

Behavioural theory must also address the fact that many of our choices are based on an emotional engagement with the behaviour rather than an analytic assessment of its pros and cons. Human beings need to build a sense of who they are, and where they sit within their communities, in other words, a sense of identity. This is often tied to membership of different kinds of social groups. Our consumption habits, behaviours and purchase choices have a symbolic aspect to them and therefore are used in this process of identity construction and in demonstrating which group we belong to. But some types of

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behaviour are more powerfully symbolic than others – our choice of car, for example, is consciously and unconsciously strongly linked to messages about how we think about ourselves and how others see us. Cladding your home in solid wall insulation is probably less strongly symbolic than car choice but nonetheless still has meanings and symbolism. So behaviours and consumption choices say something about who you are and are used as tools in the process of constructing social and personal identity. This understanding is the basis of marketing theory, brand building and classification of consumers into ‘types’ otherwise known as market segmentation.

Some other features of decision making should be considered. Firstly, many choices and decisions are not made by individuals, but by groups – households, family units etc. Secondly, we should also consider that we are not only motivated to maximise personal benefit. We also behave in ways which support our friends, family, community and the environment and we do things that have no clear benefit at all in the economic sense - they are just fun! Finally a useful theory for scheme design should also recognise that that our choices are constrained and guided by the technical and social infrastructure around us and our capacity to respond. For example, we may wish to install external solid wall insulation but not go ahead with it, either because the fabric of the house makes it impractical, or because changing the external appearance of the home is discouraged since it would affect the ‘feel’ of the neighbourhood and therefore earn the disapproval of neighbours and visitors to the neighbourhood (including estate agents and potential home buyers). We also know that the design of our towns and homes and the equipment within them encourages some behaviours at the expense of others. For example, if our washing machine has a big ‘ecowash’ button in the middle of the control panel we are more likely to wash our clothes on a low temperature wash. Architects, designers and town planners are well aware of this, ‘designing in’ our behaviour to the things and systems they produce so that, for example, we move through spaces and interact with technologies in certain ways.

Social theories

Many of these aspects are addressed by ideas derived from social psychology, sociology and anthropology. Anthropology sees the importance of the symbolic aspects of behaviour. Sociology looks at behaviour as the outcome of our interaction with others and our surroundings. These perspectives argue that behavioural choices, such as the decision to take out Green Deal finance, are expressions of how we feel about ourselves in relation to others – which social or cultural group we belong to for example, or a drive to gain the approval of those we respect or care about. For this reason, new ideas and technologies, such as solid wall insulation, tend to spread, or ‘diffuse’ via social networks. Diffusion means that the acceptance of an idea or practice is linked to social structures and values.

Much social theory applied to behaviour change also highlights the importance of the perception of a ‘norm’ for the behaviour in question. There is a great body of evidence for this, much of it energy related, which shows we are influenced by what we believe most other people do in the same circumstances – in other words what is thought to be the ‘normal’ behaviour.

‘Socio-technical’ accounts of behaviour go further than simply looking at how people’s dispositions and behaviours are influenced by others. Instead they propose that objects and technologies themselves have an inbuilt tendency to cause the user to behave in certain ways. In a sense, objects have their own ‘agenda’ for how they should be used. Different objects or technologies tend to work together in technological systems which then permit or encourage certain behaviours and lifestyles. These lifestyles in

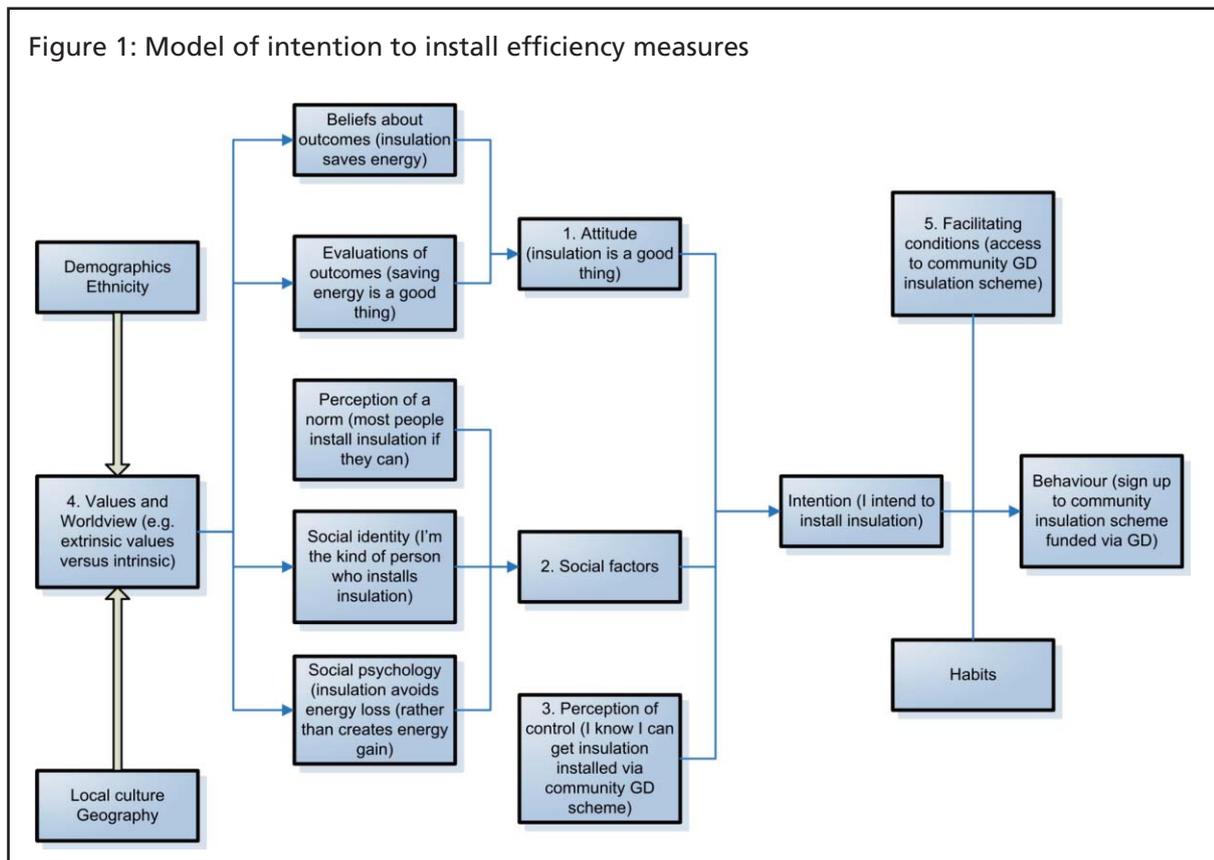
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turn create the need for further technologies to reinforce the lifestyle. This is why the idea is called ‘socio-technical’: it is describing the process whereby social and technical aspects are integrated. To illustrate this, think about how modern working patterns tend to mean that a big weekly supermarket shop is needed. There is no time to repeatedly return to the supermarket to get food for each day so more food is bought than can be consumed on any one day. Buying a lot of food in one go means using a car. Also, buying a lot of food means that cold or frozen storage of the food is required until we are ready to eat it. Cold storage requires fridges and freezers. Cold or frozen food requires the means to quickly heat it up or defrost it consequently microwave ovens come into play. The use of cars, fridges and microwave ovens all work together to enable a kind of lifestyle compatible with modern working patterns and the totality of this lifestyle has profound energy consumption implications. Shopping, keeping warm and staying healthy are all aspects of lifestyle composed of interacting ‘socio-technical’ systems.

Our mental processes will tend to match our behaviours providing a supportive framework that justifies the behaviour and encourages its replication. So the socio-technical perspective suggests we should understand behaviour as the outcome of a mutually reinforcing system of technologies, ideas, behaviours and institutions. This perspective is particularly useful for understanding how habitual, everyday behaviour is created and maintained, becoming a ‘practice’ and why it can be so difficult to introduce innovative ideas and technologies once these practices become entrenched.

How can these various ideas about rational choice decision making, values, attitudes, social forces and the interaction between social and material worlds hang together in a useful theory of behaviour? A hybrid model of behaviour which integrates these various perspectives is presented next.

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A model of behaviour change

A useful model of behaviour for the purposes of influencing households to engage with community energy efficiency schemes should have the following components:

- It should explain conscious reflective behaviour such as purchasing behaviour
- It should indicate how the precursors to conscious reflective behaviour come into existence so that opportunities for interventions can be developed
- It should situate decision making processes within their wider social context so that the full picture can be seen and new opportunities for interventions be identified

A hybrid model, combining elements of attitude theory with social psychology, is shown opposite.

This is a model that has the individual as the agent of decision-making rather than the position taken by more socio-technical approaches described above. However, although the individual is the decision maker in this model, the model also recognises various social constructs which have a bearing on behaviours – social identity and the perception of a social norm for example. The individual perspective is also appropriate for the types of behaviour we are interested in influencing in a community energy efficiency scheme because we are seeking to understand how to prompt innovative, even disruptive, conscious behaviour change (e.g. installing Green Deal measures) rather than explain how a behavioural practice is established and maintained (e.g. drying clothes in a tumble dryer rather than using a washing line) – something that may be habitual and even largely unconscious.

However, the socio-technical perspective should be kept in mind when using the model for three reasons. Firstly, it is useful for explaining habitual, everyday behaviour. Secondly, it plays a part in shaping other aspects of the model (such as the range of beliefs and attitudes that we have about the behaviour in question and the perception of control). Thirdly, it gives the big picture (i.e. behaviour is the outcome of a system of mutually reinforcing factors) and highlights why behaviour change may often only come about by changing a number of the aspects of the model shown above simultaneously and why it is often so difficult to change. Let's take a closer look at the model.

The structure of the model

The model is based on the theory of planned behaviour which is widely used to understand conscious deliberative types of behaviour. It proposes that behaviour is the outcome of a range of different types of factor that can be arranged in causal chains, and that prior to taking a conscious behaviour we form the conscious intention to take the behaviour. This feeling of an intention to act in a certain way is itself built out of three main elements:

1. A positive attitude to the behaviour (e.g. installing SWI is a good thing)
2. A range of social factors (e.g. social norm – most people round here would install SWI) including some potentially unconscious processes
3. A perception of being in control over the behaviour through having the ability or capacity to undertake it (I have sufficient resources to install SWI)
4. Values and worldview
5. Facilitating conditions

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Each of these elements is now discussed in more detail.

1. Attitudes

Positive attitude is itself a product of two things: a) having certain beliefs about the behaviour b) having a positive evaluation of these beliefs. For example, one may have a number of beliefs about the process of installing Solid Wall Insulation (SWI):

- SWI saves a significant amount of energy
- SWI will make my home more warm and cosy
- SWI saves carbon dioxide
- SWI is very disruptive

But one may have no interest in saving energy or CO₂. A positive attitude will not form unless there is also a positive evaluation of that belief:

- Saving energy is important to me
- Being cosy is important to me
- Saving CO₂ is important to me.
- I don't mind a bit of disruption

The more strongly one holds the belief and the more positive the evaluation of the belief the stronger the positive attitude. Therefore a potential objective of a behaviour change scheme would be to create beliefs about the behaviour in question and simultaneously create positive evaluations of those beliefs. However, this is easier said than done. Innumerable examples tell us that simply providing information will not be sufficient on its own. Unless information is salient, trustworthy, memorable, credible, presented at the right time and framed in the right way it will go unnoticed and unused. It will not become a belief. We also know that even where the individual has the right beliefs and therefore has a positive attitude to the behaviour in question this is still usually not enough to prompt the behaviour on its own. Other influences and factors must also be in play such as a social norm for the behaviour.

To understand how to create beliefs one needs to understand where they come from. They are the product of information becoming integrated with what we already know about the world – our worldview. Worldview and beliefs and the way in which we evaluate our beliefs are in turn linked to the fundamental building blocks of social identity - our 'values'. These parts of the model are discussed further below.

2. Social factors

Social norm:

Social norm refers to how we form an impression of what the typical behaviour is of those around us. This sense of what is typical has been found to be highly influential in shaping our own behaviour – although many claim that they are free of the influence of others in fact we consciously or unconsciously often follow suit. Social norm theory also suggests that households are more disposed to act in alignment with their perception of the social norm the more strongly they identify with, or feel part of, the associated 'reference' group. More simply, you may be aware that most people on your street are behaving in a

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certain way but feel limited pressure to behave in the same way because you do not feel a) that the households on the street are a cohesive social group or b) that you are a member or want to be a member of the street 'group' even if it does exist in your mind.

Social identity:

Social identity describes the individuals sense of themselves and their role within the community – 'I'm a teacher', 'an innovative person', 'someone that is focussed on providing for my family' etc. This sense of our standing and status within society is probably the most difficult element of the model to influence but nonetheless it can be worked with by designing messages and project objectives which align with aspects of identity. For example, taking part in a community scheme can be framed as something which is public spirited and of service to others thereby appealing to personality types which see public spirited activity as an important part of who they are.

Social psychology:

'Social psychology' refers to a whole range of mental shortcuts and rules of thumb (collectively called heuristics) that are used to make decisions. Social norming is also a social psychological process but because of its great influence and incorporation as a standalone element in attitude models it is shown separately here. Many of these heuristics are automatic or even unconscious, yet they have been shown to profoundly influence how individuals process information and behave in various contexts. An example of these heuristics is a propensity to place more importance on avoiding losses than making gains – one study (see reference at end to Coldstein and Martin) found that when energy savings from a particular measure were framed as avoided losses rather than savings or 'gains' participation in the energy efficiency scheme increased 300%. Many more of these heuristics are described below.

3. Perceived control

As mentioned, a useful theory also needs to account for resources, opportunities and skills or, at least the perception that one has these. Unless one feels that one has the procedural knowledge to conduct the behaviour or that the ability to conduct the behaviour is within one's control then no amount of positive attitude or peer pressure as a result of a social norm will result in the behaviour occurring.

4. Values and worldview

Values are another aspect of personality - they are underlying principles that organise what we think is desirable, important and worthy of striving for. Examples of values are 'security', 'cleanliness', 'conservatism', 'ecological responsibility'. We generate our values in response to the environment we grow up in and then tend to hold them with us a kind of stable aspect of our personality for the rest of our lives. The environment that we grow up in is influenced by broad social-economic and cultural forces. For example, work by Inglehart suggests that if one grows up in times of austerity one tends to develop materialistic and security values – values that are needed when times are hard. The phenomenon of the 'war baby' supports this idea – we can think of older people now in their 70s and 80s who retain their mend and make do and sparing attitudes despite having very little material need to do so. The further implication of this is that socio-demographic group, education, geography (where you live) and ethnicity will all shape one's value system.

Values are an important idea for communicators because they influence how we react to information and

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incorporate new information with what we already know. As such they are considered the drivers behind the creation of 'worldview' which describes the mental construction we all make of how the world works – its patterning, the relationships between things, and how one thing will tend to lead to another. Worldview is important because when we are exposed to information we will respond to it depending on how our worldview is structured. **Are you a half glass full or half glass empty kind of person?**

In our model we can now identify a chain of influence. The circumstances of one's formative years – material security, education and household culture will all influence the types of values one holds. These in turn influence how one's worldview is constructed (see below) which influences our response to information and how our specific beliefs about different behavioural choices are formed. Positive evaluations of beliefs leads to the formation of a positive attitude which then creates an intention to behave in a certain way. There are a lot of links in this chain which is why many studies find only rather weak relationships between values and final behaviour – it's hard to pinpoint direct cause-effect relationships, and other factors such as 'perceived control' can interfere.

5. Facilitating conditions

The final element of the model is 'facilitating conditions'. This describes the material and economic capacity to behave in a certain way. For example, owning a suitable property and having enough money to pay for improvements to be made are conditions that will affect whether or not a behavioural intention can become an actual behaviour.

Using the behavioural change model in scheme design

This is the really useful bit. As you can see, the model illustrates that behaviour is the outcome of a complex system of interacting beliefs, attitudes and capacities. You can use elements of the model in different ways. In fact an effective behaviour change scheme will work at a number of levels and on different components in the model otherwise it will, in all likelihood, have very little success. For example, many schemes have failed because they only attempted to change beliefs (and thereby attitudes) by giving out lots of information. As you can see from the model, attitude is only one influence on conscious behaviour change: other elements also need to be factored in.

The model also suggests that different types of behaviour and behaviour change are determined by a specific mix of attitudes, beliefs and capacities and that these will be area specific since all neighbourhoods have their own geography, capacities and mix of cultural and social groupings. Therefore one size will not fit all – a behavioural programme that is effective in one part of a city may not be effective in another.

Researching and designing a scheme

These factors mean that if you are setting up a project or scheme, it is vital to understand the unique barriers and opportunities associated with each specific type of behaviour change you are trying to influence. To do this you need to be specific about your aims. For example, 'greater energy efficiency behaviour' is too broad. 'Investment in external solid wall insulation systems' or 'replacement of external incandescent porch lighting with energy efficient alternatives' is much better. You should also be clear about context and local circumstances, for example the mix of groups in your area and their needs and dispositions.

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Conducting some formal social research – interviews or focus groups with a cross section of residents of the target neighbourhood prior to designing the scheme should pay handsome dividends. The PlanLoCaL resource ‘Understanding your area’ provides some guidance on how to assess the characteristics of housing and people in your community, and ‘Marketing your project’ has some pointers you may find useful.

In general we can say that the development of a behaviour change or social marketing project should have the following stages:

- 1) Selecting behaviours that will achieve project objectives
- 2) Identifying barriers, opportunities and benefits of each behaviour using local research if possible
- 3) Developing strategies, drawing from social science tools to address barriers
- 4) Piloting the strategies and adjusting as appropriate
- 5) Wider scale implementation and evaluation using direct measurement of project outcomes where possible

Now we will look at how the various elements in the model can be worked with as part of scheme design.

Social norms

Studies have shown that a householder is much more likely to accept an energy saving technology or practice where a social norm has been established for it. Therefore the work of a local Green Deal project, for example, would need to show how there is a norm for participation in an energy efficiency scheme in your community. This is called a ‘descriptive norm’, which simply states the bald fact that the majority behave in a certain way – without making a judgement about whether this is a good or a bad thing.

If this is not actually the case (i.e. very few households in the neighbourhood have so far participated), then what is called an ‘injunctive norm’ may still be effective. The injunctive norm gives the message that most households should want to sign up to a community energy efficiency scheme. In this way the injunctive norm differs to the descriptive norm.

Care must be taken with presenting descriptive norms if the norm is a behaviour that you are trying to change. Such is the power of the norm that it’s possible it could have the opposite effect to the one you are trying to achieve, i.e. households that are behaving in the desired way moving to a less desirable norm, as the following example illustrates.

A random sample of Californian households were divided into groups depending on whether their energy consumption was higher or lower than the average for that area. One group of low consuming households were sent information about average energy use for the area thereby setting a (descriptive) social norm. A second group of low consumers were sent the average energy usage plus an emoticon - a smiley face to show that they were doing the right thing (thereby establishing an injunctive norm – your lower than average energy consumption is a good thing). A third group, this time of high consumers, were sent the average consumption information plus a sad face emoticon to convey disapproval. The high consumers reduced their energy consumption, but interestingly low consumers that did not get the happy emoticon actually increased their consumption so that it approached the average. Low consumers who received the data together with the happy emoticon maintained their low consumption.

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The implication is quite clear - social norms can be effective but must be used in the right way. If people are doing something positive they need to be aware of it.

Social norm theory also suggests that households are more likely to act in alignment with the social norm the more strongly they identify with the group that the behaviour is linked to. This highlights a potential difficulty as different neighbourhoods have varying degrees of social cohesiveness. In some neighbourhoods it may be very difficult to discern a social reference group, or there may be too many to usefully work with. In these instances, social reference groups that are not bound to a defined geographical location may need to be used, such as 'families' or 'retired people'.

But how is a norm established for a behaviour when the behaviour may be invisible? The answer is to somehow make it visible. So, for example, people who have taken part in a scheme should be encouraged to put a sticker in their window, or a public display of the number of measures installed could be set up. Similarly, if those adopting energy efficiency technologies in a neighbourhood can be encouraged to talk about their experience with others, for example through open-house events, then the peer- trust mechanism should ensure that information about the technologies is much more salient and therefore likely to be acted upon. Good examples of this are open home events such as Bristol Green Doors, Eco-Open Houses (Brighton), and the UK-wide 'Superhome' network.

Feedback and comparison

People like to know where they stand in relation to others - we have a tendency for social comparison (see section on Social norms). Comparing oneself with others may act as a source of inspiration and may enable people to improve their current situation. Alternatively it may stimulate a sense of competition. These comparison processes can be employed as part of interventions to promote behaviour change. A powerful example of this is provided by OPOWER, a large scale, low technology system for billing feedback in the US.

OPOWER provides a platform which compares household usage with matched comparison groups. These are 'all neighbours' and 'efficient neighbours'. The programme has shown reductions in electricity usage for 35,000 participants against a control group rising from 2% to 3% over the first two years of operation.

The advent of smart metering offers the potential for households to compare themselves with others, potentially in real time. But the systems to enable this are not yet available.

Households also like to compare themselves with themselves. In other words, to have feedback on their own energy consumption via monitoring devices and in-home displays. This will provide support for ongoing engagement with the scheme and subsequent behaviour change. Scheme designers would do well to encourage use of real time displays to measure electricity consumption or, if these are not available, encourage regular meter reads for before and after comparisons and a record of ongoing efficiency savings.

Perceived control

Perceived control or 'self efficacy' is the belief that a given behaviour change is possible and that the behaviour change can achieve the desired goal (e.g. saving energy, money or increasing comfort).

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Behaviour change of any kind is unlikely without self-efficacy because people have to believe that change is possible and effective before they will be willing to try to change. **The lesson from this is that to get as many people as possible engaged, you need to set out the steps to measures being installed via involvement in a local project as clearly as possible, using non-technical language and graphics wherever possible.**

Lifestyle inertia and conservatism (with a small 'c')

The socio-technical perspective emphasises how technologies and behaviours work together in mutually reinforcing systems, creating practices, habits and lifestyles – ways of doing things. So an energy efficiency scheme that is proposing something potentially quite disruptive or innovative such as the creation of a bulk buying scheme within the neighbourhood should be aware that **conventional practices and habits are not easily shifted** – they have a kind of in-built inertia and conservatism about them.

Some implications of this socio-technical understanding of behaviours for project set up:

a) Play down the element of change:

Schemes will have a better chance for success the more closely the behaviours they entail are aligned with existing practice. So, for example, insulation measures and new heating systems could be framed as home improvements rather than efficiency measures so that they are more closely aligned with existing patterns and ways of viewing works to the home. The fact that installation of energy efficiency measures and their subsequent operation is not disruptive of lifestyle is also an important message i.e. that they simply provide the same service for less energy.

b) Address the big picture:

Attempts to change a practice need to take into account that multiple actors (e.g. householders, energy supply companies, insulation companies, local authorities etc), common beliefs, and the technologies themselves tend to hang together in a mutually supportive, self reinforcing ways. Just tackling one element of the system may therefore prove to be ineffective.

c) Make it familiar:

People's tendency to conservatism is also manifest in the so-called 'recognition heuristic' which describes how when people are given more than one choice they tend to choose what is familiar to them (what they recognise) which is often what they have chosen in the past. The inference is that more efficient behaviours need to become familiar before people are likely to choose them.

The hassle factor

Related to lifestyle inertia and conservatism is the inclination to accept the status quo as opposed to taking deliberate actions or making changes. This means a case for action such as Green Deal uptake must be both suitably persuasive to warrant behaviour change and made as easy as possible. Initial research on implementation of particular technologies in particular areas should identify key barriers and opportunities. A good example of this is the provision of loft insulation and loft clearance services. Many people are not motivated to clear their loft and so have not had insulation installed. Of course there are many others who simply are not able to clear their loft due to age, disability, etc.

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In trials, the Cabinet Office Behavioural Insight Team (COBIT) has found that offering a loft clearance service led to four times as many installations as when this service was not offered. COBIT points out that the 'hassle factor' can often be as large a barrier as other monetary considerations.

An evidence review of all the available studies on motivations for 'public energy conservation' concluded that 'making it easy' and 'justifications' were an order of magnitude greater in effect size than 'prompts', 'instructions', 'social modelling' and 'feedback'. This is further evidence that **scheme designers need to ensure that at least the sense of ease of participation is communicated**. Justifications are distinct from 'instructions' in that they not only describe how to do something they also state the reason for it. This suggests that this approach too should be used in communications.

Cognitive dissonance and the snowball effect

Cognitive dissonance refers to the sense of unease people feel when their actions do not align with how they feel about themselves as people – they feel 'dissonant'. It is an outcome of the tendency for our behaviours and thoughts to be mutually reinforcing. As a result people are more likely to change their behaviours when they are shown that their actions don't match up with what they say they believe. But, interestingly, people tend to take steps to align their attitudes and beliefs with their actions more than the reverse.

This means that you can sometimes **get people to change their attitude by first getting them to perform the behaviour**. Once an attitude changes it is more likely that further instances of the behaviour will result - a snow ball effect. For example, the provision of a small shower flow restrictor with an advice booklet detailing further energy saving acts was far more effective than provision of the booklet alone. In fitting the restrictor the worldview of the individual was slightly altered so that energy efficiency became more salient and this encouraged more conserving acts. The implication for scheme designers is that if householders can be persuaded to take some small initial act that is easy to accomplish, larger acts should follow.

Social identity and lifestyle

Scheme designers can work with human needs to create and maintain a social identity in a number of ways. Firstly, adoption of energy efficient practices and technologies can be framed as something compatible with a positive social identity, for example as something that is modern, clean, high-status, smart, desirable, socially responsible and ethical. The more visible technologies such as external SWI, efficient glazing and solar technologies will lend themselves better to this mechanism than invisible ones such as efficient boilers, controls, internal SWI and cavity wall insulation. Secondly, people find stories or narratives much more memorable than lists of facts. The 'story' of a householder's energy efficient lifestyle makes for a much more compelling and effective means of communicating the benefits of energy efficiency.

So if you're setting up a project, you'd do well to **include potted case histories of real people in the neighbourhood that have energy efficiently retrofitted their properties** in literature and communications. This is also another instance of where open-doors events can be really effective. Anecdotally, we know that when people visit others houses to look at the technologies they are as

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interested in the books on the bookshelf as the insulation system. This is because they are comparing and contrasting the lifestyle and outlook of the householder with themselves, judging whether I too am the kind of person that could or should engage in energy efficiency retrofit. Assuming that the householder does not come across as a complete crank then the normality or even desirability of the home and the lifestyle of the occupants within should prove powerful incentives for scheme participation.

Mind your language: frames

The language used to promote the scheme has to engage people, not make them switch off. This means connecting with peoples underlying concerns and 'front of mind' issues. **Using the threat of Climate Change as the principal lever for creating a positive attitude to energy efficiency measures will not be very useful** in this respect. This is for three reasons. Firstly, it is not readily apparent to most people how climate change will impact aspects of life of more direct concern – health, employment etc. Secondly, people are less concerned about things they cannot see or cannot imagine so messages about climate change have been shown to be more effective when framed as visible impacts – 'air pollution' etc. Thirdly, apocalyptic messages about impacts of climate change are also not likely to work because studies continue to show that people don't feel personally affected by it, and fear can only motivate behaviour change if personal vulnerability is felt.

'Availability heuristic'

Another aspect of communication that will make messages stand out and become memorable takes advantage of the so-called 'availability heuristic'. This is the mental shortcut that people take to estimate how common something is. Essentially, the more examples that come to mind the greater our sense that something is common or typical. Paradoxically this is the case even where the examples are memorable precisely because they are rare or unusual. As the section on social norming shows, when something is considered typical or normal it begins to exert a powerful influence to follow suit. Therefore creating **memorable examples** will pay dividends – for example, celebrity endorsements of the desired behaviour, or retrofitted properties in the neighbourhood that stand out (and can be visited in open doors events).

Interpersonal communication and public commitment

Making a public commitment appears to increase the likelihood that an individual will follow through on a pledge to take some action. Arranging this when you are setting up or promoting a local energy efficiency project may be a little difficult to achieve but publicising those households who have joined the scheme on a website may be an option. Public commitment may also be a facet of why interpersonal communication of scheme messages is more effective than simply providing written information. People are more likely to change their behaviour when someone else is asking them to do so, particularly if the person making the request is someone they know and trust. **A consideration for a community project might be the use of scheme advocates to go door to door in the community, or recruiting local energy champions.**

Segmentation and framing

Social theory tells us that we tend to think of ourselves as belonging to groups. We use our consumption

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patterns, tastes and preferences as evidence of our belonging to some groups and difference to others and as tools in the ongoing construction and maintenance of social identity. As we have described above, the origin of some of our attitudes and beliefs is found in more fundamental principles which we use to judge the worthiness of aspects of behaviour. These principles are usually called 'values'.

Other aspects of lifestyle and identity are more imposed than chosen – imposed, for example, by the material infrastructure around us, or our economic means. Using this perspective one can begin to understand how information is selectively paid attention to, understood and acted upon by different people and also how households and even communities can be grouped or segmented into 'types'. As any communications or marketing executive will testify, **some form of segmentation is the basis of a behaviour change strategy because it allows the crafting of messages to appeal to particular groups**, the identification of where those messages should be targeted and the best channels for doing so.

The practical implication of this is that if we have a clear understanding of what will motivate different groups, then we can design and communicate incentives in a way which best appeals to them. However in order to do this we need to have a means of classifying households and, ideally, a means of locating the different types geographically in the area that the scheme is targeted at. Various systems that do just this have been developed by companies such as Experian which has attributed a household 'type' to every postcode in the country. Using this 'MOSAIC' data means you can prioritise which streets will be most receptive to the scheme's offerings and how to craft messages in the best way.

Defra have also developed a segmentation model for 'green' behaviours (including energy efficiency behaviour and adoption of measures) but this is not linked to geography. Rather, it gives a general sense of 'lifestyle types' and what messages will appeal to them.

Values and framing

One theory says that strategies and communications centred on intrinsic values (those of community, family, inner wellbeing, etc.) will successfully create long term positive behaviour change. A focus on extrinsic values (such as monetary gain, status, etc) may lead to successful short term behaviour change to the detriment of other positive behaviour or action. This is an important consideration when thinking about how community groups will promote energy efficiency, behaviour change and Green Deal. It may be that an incentive for taking part in a scheme which has a benefit to the wider community could produce more positive and long lasting low carbon behaviour change than an incentive paying people to sign up to the scheme.

Pro-community thinking and action could become ingrained through behavioural reinforcement, and lead to social issues such as climate change and energy efficiency becoming more greatly prioritised in people's lives. Conversely, paying people to sign up to the Green Deal could lead to a more self-centred approach (again through behavioural reinforcement) focusing on personal advancement, rather than wider social responsibility. This may also lead to more carbon-intensive behaviour because people who have more money and are more concerned with personal status may consume more. This is called the rebound effect.

That said, **short term incentives (e.g. an introductory discount offer) may have an important role to play in ensuring a critical mass Green Deal uptake which will in turn trigger social norming effects.**

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Credibility and the messenger effect

In order to encourage behaviour change **the messenger of the desired behaviour needs to be someone the audience will identify with or will want to like**. Therefore one means of conferring legitimacy and trust in behaviour change information is through the use of 'influencing individuals' and / or 'energy champions'. A number of studies have shown that **energy efficiency advice is more credible and more readily interpretable when delivered face-to face by individuals who are embedded within communities** – the 'energy champions'. Defra's framework for pro-environmental behaviours includes the recommendation that 'our strategy should target both member based organisations, community groups and 'influencing individuals', enabling them to myth bust and act as champions for certain key behaviours' .

Although evidence suggests that local champions or 'wilful individuals' can be a significant force for local change, a recent study for Defra, 'Mobilising householder action using community initiatives' found that champions need 'space to emerge' and support 'to bring the community with them'. This suggests that champions should be embedded at neighbourhood scale but within a formal support structure established by a credible, trusted and resourced 3rd party such as the local authority. A further point to note is that the most effective energy efficiency messengers may not be those that are portrayed as the 'greenest' but rather people struggling to become more energy conscious just like the target audience may be.

Credibility is also conferred by how trustworthy the source of the information is deemed to be. In this respect the motivations of power companies in creating energy savings are often unclear to householders and there is an understandable suspicion that the company is ultimately acting only in its own financial self-interest when engaging in socially responsible activity. Non-profit organisations have clearer motives for acting in the communities direct benefit and therefore the information they provide may be more trusted and credible. An interesting example highlighting this effect for a power company is shown in a study where a brochure giving advice on saving energy on air conditioning was mailed to a random sample using two different covering letters: one had the letterhead of the local power company; the other, that of the local authority. Those receiving the brochure ostensibly from the local authority reduced their bills by seven percent whilst the power company group saved nothing.

Credibility and social networks

Not only do we look to technology choices to demonstrate our belonging and social identity, **we also tend to trust information more when it comes from peers and friends**; we are more likely to believe (and act upon) information suggesting that solid wall insulation saves a significant amount of energy if we hear it from a friend or neighbour rather than reading it in a bill insert from our energy supplier. So, acceptance of technology and its subsequent diffusion do not usually take place in a linear, geographical fashion – like the concentric ripples in a pond when a stone is tossed in (known as 'areal' diffusion). Instead, it takes place through social contacts: through family, friends and near neighbours rather than other groupings such as other households sharing the same income bracket or customers of the same energy supplier.

For example, people are more likely to install a programmable thermostat if one of their family or peers have done so. Similarly another study found that the best single indicator of whether a household had a solar panel installed was whether any of their friends or family also had one installed.

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The lesson here is that the creation of social networks, such as 'carbon clubs' and other peer-peer forums can be an effective way of building scheme participation, the right beliefs, attitudes and support systems.

Credibility and perceived benefits and drawbacks

When deciding whether to change behaviour individuals unconsciously contrast the benefits and drawbacks of the new behaviour with the existing behaviour. The order in which information about benefits and costs is presented is important to how the judgement is made. If a drawback is first admitted followed by the list of benefits the audience's trust is gained and consequently they are more likely to focus on the benefits than if the order is reversed. The implications of this idea is that **both drawbacks and benefits of the desired behaviour should be included in communications but that the benefits should be emphasised using techniques such as the order in which benefits and drawbacks are presented.**

Loss aversion

People generally prefer to miss out on something they would have gained rather than lose something that they already have. We are loss averse and so messages about schemes should concentrate on avoiding future loss more than potential to make future savings. Loss aversion is strong enough that people prefer to take a risk that they will lose a lot (but perhaps not lose anything) rather than be guaranteed a small loss. The message for community groups setting up schemes is that communications about potential savings from implementation of Green Deal measures will be more effective if the savings are framed as the avoidance of further losses than the creation of future gains or 'savings' that would otherwise not have occurred.

There is good evidence of this effect in an energy efficiency context where one Californian study found that when householders were told they would continue to lose 50 cents per day from not implementing energy efficiency measures rather than gain 50 cents a day from energy savings by implementing measures then participation in the energy efficiency scheme increased by 300%.

Extremity aversion

Extremity aversion or 'compromise effect' describes the heuristic where people will avoid the most extreme options in favour of a choice that appears to be a compromise. For example, people will tend to avoid purchasing the cheapest or most expensive item on the menu. Therefore **framing the desired behaviour as a compromise between the two extremes should lead to greater interest in it.** For example if the desired behaviour is participation in a scheme to install external solid wall insulation then communications should also mention efficiency measures that are more expensive and/or disruptive than this and also measures that are less expensive and/or disruptive.

The reciprocity rule

The reciprocity rule explains people's strong tendency to return favours or gifts with something of equal or of greater value regardless of whether or not they had asked for the initial favour or gift. This is because people tend to think of gifts as debts that must be repaid. An application of this rule to design of an efficiency scheme could be whereby the scheme gives away some free relatively low cost energy efficient product e.g. an energy efficient light bulb to all the target households. This will elicit a desire to 'return the favour' potentially via joining the Green Deal community scheme. A giveaway of a small energy efficiency device may also elicit the cognitive dissonance effect.

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Conclusions

If you have read through the whole of this resource you will have seen that there are a large number of inter-related factors which influence behaviour and decisions about energy efficiency. But looking at each of these in more detail allows us to identify some key motivators and messages which can be used when setting up a community led scheme.

The essential challenge is in ensuring that marketing, communications and incentives are well designed so that homeowners and communities perceive their uptake of community energy efficiency projects, or of the Green Deal, as a personal 'win' (e.g. through personal benefits and comfort) and a community win (e.g. as homeowners they are seen to be contributing to the overall aims and objectives of society). To convey this message to the public, and engage them en-masse requires a sophisticated approach to communication and incentive design. Key messages are:

1. Design the scheme informed by research conducted in the targeted community so that local constraints and opportunities for individual technologies and behaviour changes are well understood.
2. Use the model of behaviour change outlined here to think about which precursors to behaviour can be most effectively worked with in your locality. Behaviours are difficult to shift so expect to work with multiple parts of the model simultaneously.
3. The closer a precursor is to the behaviour the more direct its influence on behaviour aspects of decision making and the further back from the behaviour the more difficult to change – don't expect to change people's values.
4. One size does not fit all. Messages must be tailored and targeted based on local conditions.
5. Make sure the language is "framed" based on the unique mix of households in the community and take advantage of the ways that in which we use mental shortcuts and heuristics to make decisions to present information accordingly.
6. Also use the behavioural science in mechanisms such as cognitive dissonance, social norming and others to design the interventions.

Resources in this pack have been designed to give community groups the tools to address people on their own terms; equipping them with the knowledge to make informed decisions. Creativity will prove essential however, to successfully engage different people in different ways.

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