
Low Carbon Behaviour Change: The £300 million opportunity



Low Carbon Behaviour Change

In the UK there is a £300 million opportunity in encouraging employees to adopt greener behaviours, which would result in saving over six million tonnes of carbon. However, a good programme needs to bring together technical expertise with sound behavioural psychology, marketing expertise, and a profound understanding of organisational change. There is no one-size-fits-all solution, what works tremendously well in one organisation may not work at all in another. But there are a few design principles that underpin all successful behaviour change programmes.

The Carbon Trust has over a decade of experience in helping thousands of public and private sector organisations to cut carbon and become more sustainable. This experience suggests that with an investment of between 1-2% of energy spend in an effective employee engagement campaign, many organisations can save up to 10% on energy costs.

Behaviour change has long been recognised as a low-cost, high-impact way of reducing an organisation's costs. But a number of organisations struggle to engage staff effectively in order to deliver long term energy and carbon savings.

Our collective understanding of what works and doesn't work in low carbon behaviour change has advanced significantly, and continues to develop. This report looks at how to overcome some of the biggest barriers and most common pitfalls in delivering a successful behaviour change campaign.

Building a successful campaign

Understanding potential opportunities

The first step in any behaviour change programme has to be **understanding where energy is used and how much of that energy can actually be saved**. Without that understanding resources can easily be wasted and outcomes not achieved.

Many organisations have to deal with the realities of limited metering and awareness of where most of their energy is used. Acquiring that technical understanding is essential to target the greatest potential savings, define appropriate outcomes, and most importantly, measure success.

Understanding buildings and facilities

One of the greatest challenges in designing an effective campaign or process to change behaviour is to **understand how your buildings work and how people use them**. This may seem simple but in reality can be complex, with different functions carried out in different parts of buildings, where the building function itself may have changed, and frequent changes in occupancy.

Larger organisations will not just have one building but several, each with their own challenges and characteristics. It's vital to take time to understand how a building functions and the needs and motivations of its users before planning a behaviour change campaign.

Understanding people

Running through all behaviour change campaigns has to be a constant quest to **understand what makes people do the things they do**. There are many campaign ideas that sound good, but are doomed to fail because they don't take behavioural psychology into account.

Once you understand people's values, barriers to change, and motivations, you can start to build an effective campaign likely to have a real and lasting impact.

Social marketing and behavioural psychology

Social marketing is an effective way of delivering behavioural change outcomes for groups, or across society as a whole. It's more than awareness-raising or an information campaign - it's a process with multiple steps and activities that identifies the root obstacles to change and then nudges, motivates, or enables people to behave in a different way.

Social marketing has been used extensively in areas such as public health and reducing antisocial behaviour like drink driving. By combining psychology, sociology, anthropology and commercial marketing techniques, social marketing helps to develop activities that change or maintain positive actions. It helps us address one of the biggest challenges in any behaviour change campaign, which is persistence, or making sure that change lasts. Having a big push for a day, or even a week, can have a huge short-term impact. But behaviours have to be designed and supported in a way that ensures they will last beyond the lifetime of a campaign.

Low carbon behaviour change is about choosing the intervention that is going to have the biggest impact on the sustainability of your organisation. The battle to change staff

behaviour is often between the considered "slow" part of the brain and the impulsive "fast" part. By working with staff to understand their thought process, you can design interventions that will achieve this goal.

Taking a values-led approach

One of the most important steps in a social marketing approach to behaviour is addressing people's value systems. Our values influence everything we do, how we interpret the world around us and the decisions that we make. Forcing someone to do something that does not fit with their value system creates cognitive dissonance – in other words, it makes us uncomfortable.

Whilst you can force someone to do something for a reason that doesn't fit with their normal value system, they're unlikely to do it just because you've asked or encouraged them. If you ask a climate sceptic to turn a light out to save the planet, they're not likely to comply. You can force them to turn the light out – for example through threats – but this will make them understandably unhappy.

Changing values is very difficult and takes time, particularly across large and disparate groups. It can be done successfully, but to achieve short-term gains and immediate benefits it can be more effective to work within people's existing value systems. This involves looking at the values people already hold and building an effective campaign around them.

For example, the Carbon Trust worked with a police service where very dedicated staff were focused on their jobs and not conscious of saving energy at work, but were motivated by the need for data security. The solution was to build a switch-off campaign around the fact that computers are less vulnerable to cyber-attack if shut down overnight, which immediately resonated with staff.

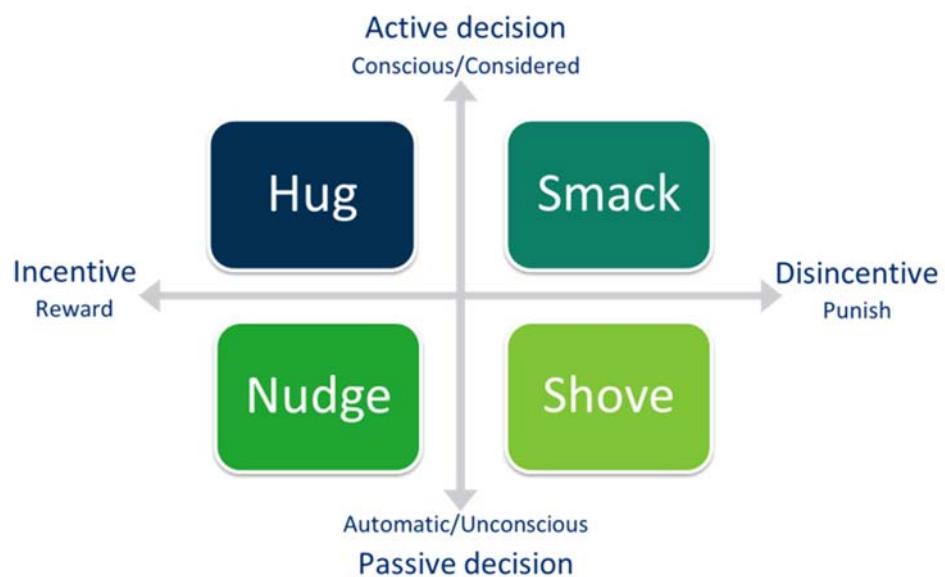
The UK opportunity

Based on the Carbon Trust's experience, many organisations can make comparatively small, and readily achievable, changes that result in a large cumulative impact on business costs and carbon. For example just replacing 5% of international business travel with teleconferencing could have an enormous impact, as demonstrated in the table below.

Behavioural opportunity	tCO ₂ e	£/year
Get car drivers to switch to bus once a week	3,727,779	
Get car drivers to share with another driver once a week	4,430,383	
Reduce number of air business trips by 5%	1,528,562	£ 128,500,000
Reduce small power energy use by 10%	189,656	£ 39,028,500
Reduce lighting energy use by 10%	163,790	£ 55,085,940
Reduce temperature by 1°C	194,151	£ 35,170,254
Reduce waste sent to landfill by 5%	114,624	£ 48,960,000
TOTAL	6,269,863	£ 306,744,694

Designing interventions

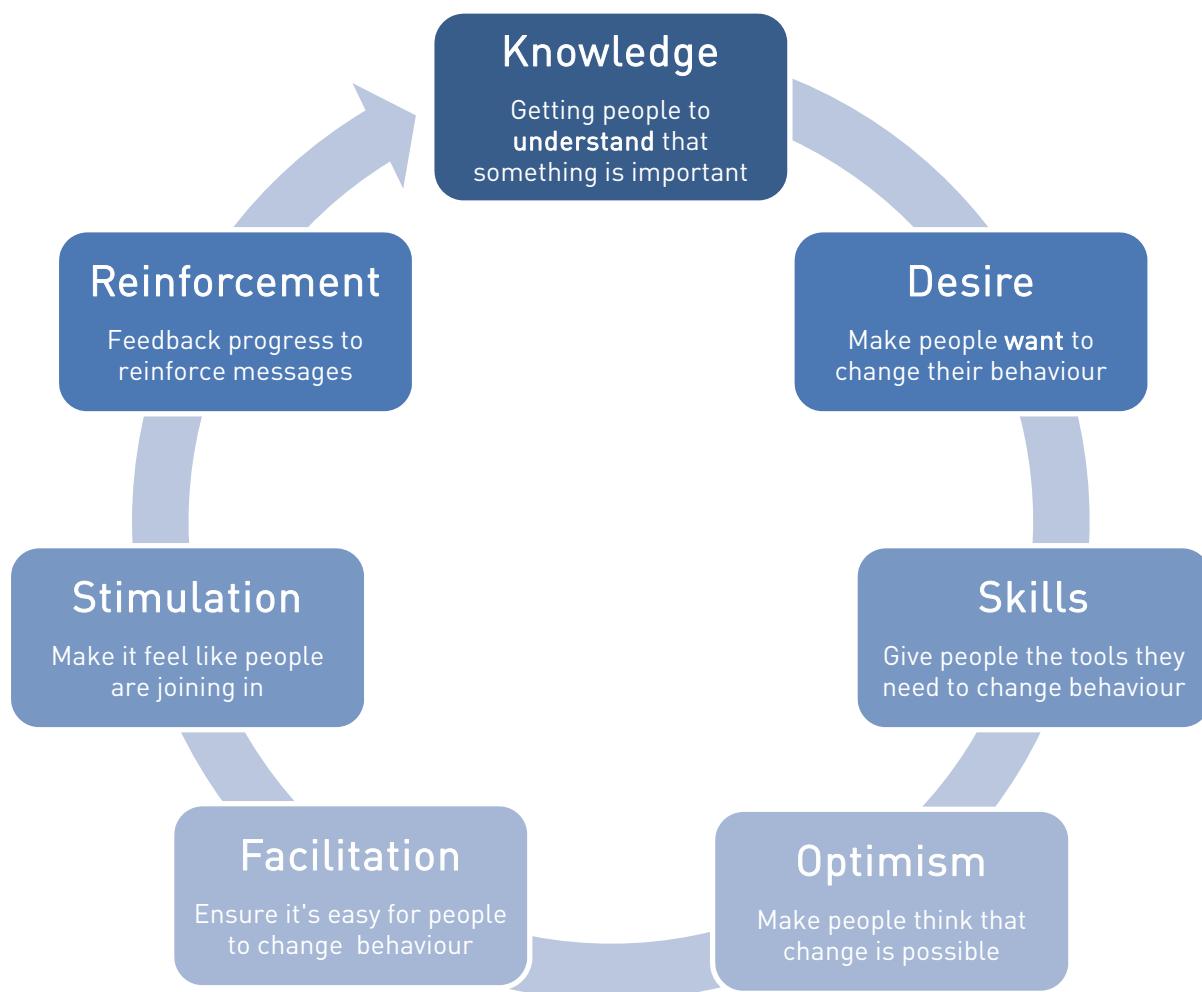
The diagram below shows the range of possible interventions. Often a combination of these in one campaign is the best way to reach the “fast” and “slow” parts of the brain and embed long term behaviour change.



The seven steps to social change

Les Robinson proposed a theory for the seven stages of behavioural change (1998). It demonstrates the steps that a person goes through when changing their behaviour.

When designing your behaviour change campaign, consider whether you are accounting for each step.



Research Insights

The Carbon Trust, working with Populus, conducted a survey of 1,135 UK employees in December 2013 to explore their attitudes and motivations towards energy saving at work. Every organisation is different, but the research helps to illuminate some of the considerations that come into play in the design of a successful behaviour change campaign.

Some of the insights from this research include:

- > Very few employers are currently taking action to engage their workforce. Only 23% of employees have been asked to help save energy at work by their manager, and just 13% claim that they are rewarded by their employers for saving energy.
- > Employees are willing to change in principle: 81% would share a car journey with a colleague, 74% would replace a meeting with a video conversation, and over 95% are willing to turn off lights or unused equipment. But there can be a number of barriers to overcome to turn willingness into a habit. For example where they feel that they are losing something through changing their behaviour, such as time or convenience.
- > There is a significant gap between being willing to take action in principle and actually taking it. 96% are willing to regularly turn off lights in unoccupied rooms or areas, but only 52% actually are. And 74% would replace a meeting with a video conversation, but only 17% are doing it.
- > 60% of employees say they would be more likely to save energy at work if they were praised, twice the number that felt they would respond positively to criticism. Using negative messages or criticism to change behaviour can be effective, but it can also lead to unpredictable results, including the potential for backlash. And praise can be almost as effective as money in motivating staff: 60% say they are more likely to take action if financially rewarded, and 58% more likely if to do it if their actions were simply recognised.
- > An important part of any behaviour change campaign involves empowering employees, giving them the knowledge and license to take action. At the moment only 22% of employees are confident that they know what actions to take to save energy at work, and just 16% are sure that they have the authority to do it.
- > People behave differently at home and at work. 92% of workers are concerned about the cost of energy at home, but only 47% are concerned about the cost of energy for their employer.

- > Workers in London consistently take more action and show higher levels of concern than those in other parts of the country. 76% of Londoners believe they should take action to save energy at work, compared to a national average of just 58%.
- > Workers in the public sector consistently take more action and show higher levels of concern than those in the private sector. 65% of public sector employees are concerned about how the actions they take at work impact on the environment, compared to 55% in the private sector.
- > The behaviour of young people, particularly those aged 18-24, appears to be significantly more influenced by others than older colleagues. For example 40% of 18-24 year olds admit to influence from celebrities, compared with just 3% of those aged 55-64. To change the behaviour of everyone across an organisation, it is necessary to consider that different segments will respond to different messages depending on a huge number of factors including age, gender, level of seniority and social status.

Five top tips for building an effective campaign

1 Understand where energy is being consumed

The greatest potential for savings may not always be where you think – look at energy consumption across your organisation and where behaviour is a factor before taking action.

2 Prioritise the behaviours you want to change

Look at where you can realistically have the greatest impact – balance potential savings against the probability of achieving change.

3 Define the outcomes that you want to achieve

Decide what goals you are actually trying to achieve, so that you can actively monitor performance and feedback on results.

4 Research what motivates or blocks good behaviour in your organisations

Find out what is important to your staff and how they think, behave and interact with the building, technology and others around them. Build your campaigns around this understanding.

5 Secure senior support to unlock necessary resources

Get permission to act - although it is not always necessary for senior leadership to act as role models, it is vital that they are brought into the project early on. They will be able to facilitate – or block – what you’re trying to do.

Case study: University of Sheffield



The University of Sheffield was one of the participants on the Carbon Trust's first collaborative low carbon behaviour change programme run in 2012.

The programme brought together ten public sector organisations from around the UK, including local authorities, statutory bodies, higher education institutions, and NHS Trusts. Over six months participants each developed a one-to-two year behaviour change campaign designed to deliver cost-effective and sustained energy and carbon saving across their organisation.

The University decided to run a Labs Switch Off campaign as a pilot campaign, targeting laboratories in twelve buildings. The Faculty of Science emits 43% of the University's carbon emissions, excluding residences and non-University owned buildings.

The campaign was designed to overcome identified behavioural barriers to energy efficiency savings. In particular there was uncertainty about what equipment could and could not be switched off without disturbing the work of others. Research staff also had a lack of understanding or engagement with the benefits of energy efficiency, and there was a hassle factor that prevented action being taken.

Communications were sent from a faculty-level with details about the campaign, and an energy saving competition was held in the departments involved.

"Working with the Carbon Trust we were able to develop a strategy for implementing a large-scale behaviour change campaign, prioritising the actions and audiences that would have the biggest impact on energy use. The results we have seen are a testament to the power of engaging the very committed staff we have across the University to do their bit to help us improve our environmental performance. We have been able to engage senior leadership and now have an active network of green champions."

**Tim Allen, Environmental Project Officer
at the University of Sheffield**

A series of stickers were designed to be put on equipment, explaining whether they should be turned off when not in use, turned off at the end of the day, or left on all the time.

For the duration of the campaign week-by-week updates were provided of energy use, and league tables were produced for the competition. The winners were the Molecular Biology & Biotechnology Department that managed to reduce energy use by almost 10% - equivalent to making over quarter of a million cups of tea.

Since the successful pilot, further campaigns have been run by the University's Green Impact team, including an Arts Tower Blackout.

This involved one of the more prominent buildings in the University, combining both academic and professional services departments, with a higher-than-usual amount of office equipment.

With senior-level support, and using a series of volunteers, a concerted effort to switch equipment off over the weekend when not in use resulted in a 20% energy saving compared with an average of previous weekends.

The University estimates that in 2012/13 there were almost 2,000 people reached by campaign teams, and that a drive to encourage staff to switch lights off when leaving a room has potentially saved over 200 tonnes of CO₂ and over £30,000 a year. Over half of all University departments now have a staff volunteer or volunteers helping to green their workplace.

As a result of the work done during the Labs Switch Off campaign options are now being investigated for more detailed energy monitoring, going beyond a building level and looking at individual rooms or floors. Beyond this, thanks to the fact that Sheffield Hallam University was also participating on the low carbon behaviour change programme, discussions about collaborative approaches to behaviour change across both of Sheffield's major universities are currently underway.

"Our employees' support is vital for us to achieve our environmental targets and environmental sustainability must be embedded into the hearts and minds of everyone within the organisation for our strategy to be truly successful. We are pleased to have had an opportunity to work with the Carbon Trust to develop a tailored programme which is relevant to Nationwide and we are confident Empower™ will help actively engage and inspire our employees on our journey towards a lower carbon future."

**Lynn Forrester, Sustainability Manager
at Nationwide**

Case study: Nationwide



The world's largest building society, Nationwide, worked with the Carbon Trust to develop a bespoke version of its online behaviour change tool Empower, to help engage its 15,000 employees with energy efficiency.

Nationwide's own version of Empower features virtual representations of both retail branches and administration centres, as well as transport options for getting to and from work, details on teleconferencing instead of travelling to meetings, and recommendations on how employees can take action in their own homes.

Information and reporting on employee pledges helps Nationwide to target the most effective places to change behaviour, as well as monitor expectations and progress.

The tool helps communicate to employees how small actions they can take, such as switching off monitors and lights when they are not needed, can make a big difference across the organisation.

The advice provided to employees is designed to complement the wider efforts to reduce carbon throughout Nationwide's business, following their work on developing environmental sustainability strategies with the Carbon Trust.

How the Carbon Trust can help

The Carbon Trust helps public and private sector organisations take advantage of the cost and carbon savings from engaging its workforce in more sustainable behaviour, through:

- Technical surveys and opportunity identification
- Advice and support to develop and deliver organisational behaviour change
- Empower™ Employee Engagement Software
- On-site engagement and training

Carbon Trust Empower™

Carbon Trust Empower™, is designed to increase employee engagement by putting your workforce in the driving seat. Empower™ has been configured entirely around the employee, to help them see that through simple behavioural changes, their individual efforts add up to make a bigger difference.

The software works on a wide range of mobile platforms, including smartphones and tablets, allowing organisations to facilitate energy and resource efficiency audits carried out by multiple staff and stakeholders.

- As well as the improved standard version of the tool, the Carbon Trust is able to create bespoke versions of Empower™ specifically designed for your organisation's needs. Bespoke versions:
 - Have tailored text, branding, content and rooms to integrate and align with organisations' objectives, policies, working environments and existing communication channels.
 - Enable reporting on who is engaged/what pledges have been made across sites and at the organisation level.

Contain additional features including tracking of progress towards meeting pledges and a Home Energy use section to allow employees to explore energy savings at home.

For further information on how the Carbon Trust can help your organisation take advantage of the opportunities in low carbon behaviour change please get in touch.

+44 (0)20 7170 7000

info@carbontrust.com

www.carbontrust.com

The Carbon Trust's mission is to accelerate the move to a low carbon economy. We are a world leading expert on carbon reduction and clean technology. As a not-for-dividend group, we advise governments and leading companies around the world, reinvesting profits into our low carbon mission – a unique and sustainable combination. Our vision is a vibrant, sustainable economy - with wealth and opportunity for those who take the lead.

- > We advise businesses, governments and the public sector on their opportunities in a sustainable low-carbon world
- > We measure and certify the environmental footprint of organisations, supply chains and products
- > We develop and deploy low-carbon technologies and solutions, from energy efficiency to renewable power

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+44 20 7170 7000

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