

BEHAVIOUR CHANGE

Taking up the challenge to deliver energy benefits



Using psychology and behaviour change science to cause a fall in energy consumption is no easy task but, if done correctly, it can deliver significant results. James Brittain talks through the theory and outlines a new initiative.

Behaviour change for organisations looking to reduce their energy use is very topical this year. It was a central theme in this year's Energy Institute annual Energy Efficiency conference, held in March, which also included a behaviour change workshop as a second day. Indeed, behaviour change has always been a key way to help unlock the energy efficiency potential for organisations, particularly off the back of increasing international pressure to mitigate climate change and likely future increases in energy prices.

More energy managers are also now realising that people-based solutions are often one of the quickest and lowest-cost ways of delivering energy savings and reduced carbon emissions at scale.

This article summarises the main challenges that organisations

currently face in reducing energy use, and considers some emerging themes that can help to address these challenges, including the opportunity to take up the EI's new 100-Day Behaviour Change Challenge.

Why behaviour change?

Organisations like the Carbon Trust and the European Environment Agency report that typically most businesses and organisations can save between 5% and 20% off their energy bills using low-cost behavioural actions. However, many end-user organisations still struggle with their change programmes and often become disillusioned as embedded energy savings don't result, or if they quickly fall away over time.

One helpful model to think about why organisations struggle is the seven 'dragons of inaction', as set out by the psychologist Robert Gifford.

Energy managers have historically reported key challenges around the dragon 'limited cognition' with other priorities taking precedence – 'We have limited time to think about energy efficiency'; or 'discredence' with a natural mistrust or denial, for example – 'we don't believe behavioural solutions can make a difference'.

While these challenges are still important, there seems to be a recent shift. Participants at the EI March workshop discussed their top 20 challenges and 75% are now more to do with 'disconnects with others'; 'perceived risks' and 'ideologies and beliefs'.

- The 'disconnects with others' highlighted are to do with 'working in silos' or 'a lack of joined-up thinking', alongside 'different drivers across an organisation', or 'not integrating behavioural requirements into design and maintenance thinking'. Activities need to be coordinated, easy to do and be emotively connected so individuals are all working together.
- 'Perceived risks' can be to do

with a 'fear of failure' and 'perceived negative consequences', 'having to deal with high levels of staff turnover' or 'not wanting to fix something that appears to work'. We need the confidence to energise action and develop momentum to embed lasting change.

- 'Ideologies and beliefs' are views that justify why people don't take action; for example, these may arise from 'unhelpful messages from government or poor leadership', 'a lack of good data about actual savings', 'internal politics' and a 'general lack of awareness'. Experimentation, for example, can help test out energy savings approaches and ideas to demonstrate the reasons for doing more.

These dragons of inaction are also often the root cause as to why there is so much avoidable energy waste inherent in most of our facilities and operations at the moment. They may also explain why there may be limited board-level support, money or interest in optimising energy performance within organisations.

Nevertheless, more end-user organisations are demonstrating good levels of energy savings.

For example, while I was energy manager at Heathrow Airport (2007 to 2010), the organisation did not initially have any dedicated capital budget for energy efficiency projects, so we had the opportunity to try out different people-based solutions and ideas. We really surprised ourselves in that we delivered our 15% energy savings target, across the whole airport, in three to four years – which was about half the time we thought possible. Teams in the best areas were delivering over 30% savings a year.

There is no silver bullet; all organisations are different. The best approach will depend on the organisation and its people.

Emotive connections, building confidence and experimentation

are three themes that emerged from this year's EI conference that can help.

Making emotive connections

Energy managers rightly focus on ensuring that their energy management systems work to deliver business benefits for their organisation.

However, we find that many successful approaches also aim to create the emotive connections needed to help bring together people and teams, to overcome any disconnects and encourage people to work together more effectively.

To do this, we often need a big idea and a compelling vision to motivate everyone involved. What's going to excite people? Can we make it fun? This is not going to necessarily be the energy saving or environmental benefit in itself. To target co-benefits that can help, we can tap into some of the classic motivational theories of Maslow, McGregor, Herzberg, and others.

From 2012 to 2016, for example, we worked with Heathrow's commercial team and all the retailers involved in the airport's new Terminal 2 development which opened in 2014. The challenge was to deliver great energy performance across 186 different retail spaces by joining up 46 different retailers.

The award-winning approach

relied on everyday champions acting as key connectors, connecting up and influencing their colleagues, particularly across the design, technical, operational and behavioural aspects of delivering best-practice energy performance.

At the heart of the approach were 'lead and learn' workshops, to help create a community of good practice, and a design energy targeting approach, used to challenge the teams to achieve stretched energy targets. Overall, the Terminal 2 retail teams achieved 24% averaged better design energy performance compared to equivalent Terminal 5 retail unit baselines, saving over £500,000 a year in reduced energy costs for the retailers involved.

Restaurant chefs, for example, tend to be all about delivery and service. To help make things easier to control, designers made use of high spec, fast and modular kitchen equipment which not only reduced the instantaneous power demand but also helps to make sure energy is only used when required.

Monitoring of restaurant energy consumption in Terminal 2 during 2016 has demonstrated good levels of energy savings with energy consumption now more closely correlating with the numbers of customers eating in restaurants – an indicator of good practice

energy performance.

Building the confidence

To successively embed an energy culture throughout an organisation, eventually everyone needs to have the confidence to become an everyday champion.

Across a large building or estate there are usually thousands of opportunities to either switch off or turn down equipment at certain times of the day. The problem is that often people don't know when and where they can do this so equipment and systems are left on for most of the time. Even where there are automatic controls in place, we often find this is still often the case.

To be effective, people need to know what they can do and the actions they can take. This needs to be quick and intuitive otherwise it will not happen. We find developing the confidence to develop this knowledge is often more effectively done at scale, through developing mind-sets and training, rather than relying on information communicated through posters, stickers or standard operating procedures.

One way to do this is through an ideas app that taps into social networking; by seeing all the ideas and actions others are doing then colleagues instinctively know what

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The Energy Institute 100-Day Challenge

The Energy Institute is inviting end-user organisations to express interest to take part in a new 100-Day Behaviour Change Challenge to be held later in 2017.

The big idea is to tap into skills across professionals to help accelerate organisational behaviour change and deliver significant energy and carbon reduction for end-user organisations by trying new approaches out.

The challenge aims to do this by helping facilitate professional collaboration for energy behaviour change projects. Teams comprising end-users, energy management specialists and psychologists and behaviour change specialists can chart their

progress over 100 days of innovative and practical consultancy projects, sharing knowledge about best practice and challenges.

The concept is simple: see what you can do in 100 days. By focusing on a fixed timeframe, it creates a sense of urgency to help break through any barriers that may exist, while allowing time to explore and try our different ideas and build the business case for further action.

For more information, or to express interest to take part, contact Sarah George, Engagement Manager – Knowledge Service at the Energy Institute at sgeorge@energyinst.org, +44 (0)20 7467 7164

they can just do themselves.

Working with Amey, from 2012, we initially trialled our ideas app that aimed to help do this for a government estate contract. Using energy treasure hunt type events and trails, colleagues across the contract could target and report their energy savings ideas using the app. Facilitating competition also develops emotive connections between teams.

We have since further developed this to include an actions app with built-in training and toolkits to help focus and further build the confidence of everyday champions and other significant energy users, whilst making the whole process easy to engage with.

On-the-job training is often the key to doing this. By working with colleagues focusing on small incremental change, we find that every so often golden nuggets of larger energy saving opportunities also drop out. When delivered and sustained, all these savings add up.

More organisations are asking for gamification to be built in to their strategies. Crediting energy savings and benefits to champions and teams rather than areas, for example, also allows us to build in recognition and reward. We typically find that just by spending 15 to 20 minutes everyday acting in this way, energy champions can make a big difference.

Specialised training for everyday champions and significant energy users now comes with industry recognition which means colleagues can include their new skillsets and confidence levels on their CVs. Our training, for example, is accredited through ESTA for different levels of achievement.

Experimentation and field trials

We find experimentation and focusing on testing out energy saving approaches and ideas is often an effective way for local champions to help overcome ideologies and beliefs. Direct myth-busting, in comparison, can sometimes be problematic as it

needs to be done in the right way.

It's certainly worth experimenting in this way for energy savings. The Carbon Disclosure Project reports that behaviour change is one of the most cost-effective carbon measures undertaken by energy-intensive companies in terms of internal rate of return (>72%) and return on investment (124 kgCO₂/\$ spend).

Nudge, prod and persuasion techniques are generally more effective than command and control approaches but success will depend on the circumstances.

One example framework that can help is the 100-Day Challenge. This has been used to great success in lean manufacture and HR for many years. Applied to energy improvement projects, by setting a 100-day plan in advance, teams have the opportunity to collaborate on a particular challenge or obstacle, try new ways out and see what they can achieve in 100 days.

Restaurants, for example, are using fire-up schedules as a means to experimentally stretch on and off times of kitchen equipment in a managed way. More often now, for example, toasters are being switched off after the morning rush while equipment like fryers are held off until cooking for lunchtime. Monitoring for one restaurant shows that one additional off-hour, averaged across all their equipment, would save £5,000 a year in reduced energy costs.

For experimentation to work, and to help motivate the people involved, it is important that results are monitored and fed back to the people involved.

Heating, ventilating and AC and lighting systems are typically the largest energy consumers in most buildings and these systems often run for longer than needed. A hospital team, for example, collaboratively reviewed the operating times and set-points of a sample range of HVAC systems and lighting controls. For areas continuously used 24/7, they found they could switch off some of their

systems for two or three hours a day without affecting comfort.

Trial adjustments made to lighting controls also showed significant results. Overall, these quick wins meant the hospital quickly saved £83,000 a year (for little investment) and gave them the confidence to make more improvements in the future.

Approaches that tap into emotive connections, building confidence and experimentation are inevitably closely related and need to be integrated to work together.

This is as much about energy leadership as energy management, encouraging a culture of action-based continual learning, innovation and leadership, with a clear line of sight to the bigger picture. This would typically be managed within an energy management system framework such as ISO 50001.

This is where the EI's 100-Day Challenge can help (see box above). Regardless of whether your organisation is new to behaviour change or you are an experienced practitioner, this is a great opportunity to take up the challenge, work more collaboratively with partners and discover new approaches that may help push the boundaries for your organisation.

Whatever the approach you take, the basic principles of people solutions don't change. Make it desirable, make it focused, make it easy, make it continual, but most importantly make it yours.

Ultimately, the aim is for everyone to become confident that your energy management practices are delivering the best value for your customers with minimal avoidable energy consumption and waste. ●

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