EUROPEAN DEFENCE AGENCY

Fact sheet

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Maximising Energy Efficiency through Behaviour Change – A UK Case Study

Why?

The UK Ministry of Defence (MoD) has a target to reduce fuel consumption by 18% by 2020 (from a 2010 baseline). Evidence shows that behaviour change interventions alone can achieve between 5-20% in savings at low cost and with savings being achieved quickly in comparison to major refurbishments or system upgrades.

A study conducted by the UK Defence Science and Technology Library (DSTL) investigated how improved understanding of energy behaviours and behaviour change could be used to meet reduction targets.

How?

The DSTL project team identified the COM-B (Capability + Opportunity + Motivation = Behaviour) model as an appropriate model for understanding the high level categories for influencing behaviour. The model identifies that an individual needs to have the following three components in place to be able to exhibit a desired behaviour:

- the ***capability***, in terms of physical strength, knowledge, skills, stamina etc. to perform the behaviour;
- the ***opportunity*** for the behaviour to occur, in terms of a conducive physical and social environment (e.g. there must be sufficient time to complete the behaviour); and
- Sufficient strong ***motivation*** (i.e. they must be more highly motivated to do the behaviour at the relevant time than not to do the behaviour).

The COM-B model was incorporated into the creation of the novel Future Interventions Start Here (FISH) approach (see ***Figure 1***) for use in behaviour change energy efficiency projects.

The ***FISH*** approach is a systematic six step process that begins by identifying the energy issues, then the associated behaviours are established, prioritised and decomposed into their capability, opportunity and motivational components, before suitable interventions are finally determined at the tail-end of the fish. This process ensures that interventions are not chosen without a full and detailed understanding of the behaviour in context and that all interventions are directly linked to the COM-B model in a robust and systematic way.

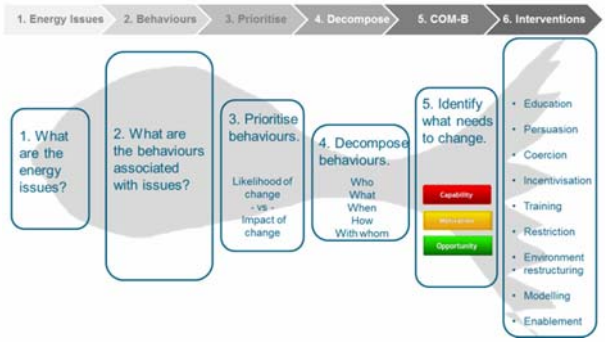

Figure 1 – ***FISH*** Approach ***(courtesy of UK MoD)***

Additionally, the project identified the following insights:

- Behaviour change is a process not an event.
- Most sustained behaviour change requires multiple interventions and adaptations over time.
- What works in one place may not work in another; there is no single 'silver bullet' that can address all energy usage or intervention.
- The literature suggests that interventions should be focused in the context of the individual / target groups.

- A systems approach is required.
- No theory or model of behaviour change is perfect.
- Behaviour change has secondary unintended secondary effects which can be positive or negative.
- Social norms are extremely important; 'we' is the most important word in behaviour change interventions.
- Information is important to generate knowledge but is not sufficient to change behaviour.
- Incentives are rarely successful; the use of rewards, even large ones, may be insufficient to motivate a change in behaviour, particularly over the medium to longer term.

Case Studies

The ***FISH*** approach has been applied and subsequently validated across a number of "deep dive" case studies including a complex Multi-Use Building and an operational base.

The focus of the multi-use base case study was on equipment management and in particular the switching off equipment. The FISH model identified appropriate interventions including: stakeholder engagement, support from senior management, identifying effective feedback and dispelling IT Myths. The successful implementation of the model in this instance ***saw energy savings of 26%.***

Behaviour Change Tips

One of the outputs of the project was a top 10 list of behaviour change tips:

1. Identify the discrete behaviour you want to change and understand the context.
2. Interventions must be tailored to the context.
3. Successful behaviour change uses a multi-intervention approach.
4. Align the intervention with other non-environmental goals (e.g. operational effectiveness, safety).
5. The design of behaviour change interventions needs to be completed with staff.
6. Identify who is likely to be the best messenger for the intervention.
7. Interventions to change behaviour are NOT only financial incentives - incentives can drive perverse anti-behaviours.
8. Split incentives make changing behaviour more challenging (e.g. different person pays to the person who uses).
9. If you can't measure energy use, measure energy behaviours.
10. Successful behaviour change relies on a three legged stool of motivation, capability and opportunity. Lose one leg and the stool falls over.

Benefits to the Defence Sector

The use of ***FISH*** model has been validated over a number of separate case studies proving it is a reliable and systematic way to identify a multi-intervention behaviour change approach that can be successfully applied within the Defence environment.

The ***FISH*** model has proven to be easy to understand; helps uncover important contextual factors; encourages better specification of interventions, and supports a common lexicon for behavioural energy efficiency activities. More importantly, it is simple to implement and assists policy makers and practitioners to identify the potential organisational and individual behaviour changes that interventions will support by clearly identifying what needs to change in order to make the target behaviour more likely to occur.

Challenges for Defence

- The capabilities, opportunities, and motivations of staff at the tactical level and those at the managerial level will be different, therefore a two-pronged approach (at least) is required for behaviour change to occur (e.g. conduct the FISH approach for each level of the organisation).
- The existence of split incentives (i.e. those responsible for managing and paying for energy are a smaller and different group of people to those who use it) appears to result in energy efficiency being considered as a lower priority than other requirements for the large majority of users.
- Engagement and buy-in for a behaviour change approach to improving energy efficiency is required at senior levels within an organisation and can be difficult to secure.

Status in the Defence Sector

The next phase of work will involve scaling up the use of behaviour change as a low cost, quick win on a variety of energy efficient projects throughout the MOD, by developing a training package with supporting materials suitable for non-behaviour change specialists to use within their own organisations. Additionally, two more case studies are planned to further exploit the FISH approach and improve energy behaviours for more MOD units.

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