

# **Evaluation of the effectiveness and impact of energy efficiency advertising campaigns**

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## **ABSTRACT**

National advertising is widely used to promote energy efficiency. This paper provides the results of an evaluation of a national energy efficiency advertising campaign by the United Kingdom's Energy Saving Trust. The evaluation used a range of research methods, including:

- a review of the logic framework underpinning the advertising;
- analysis of website traffic and operational data;
- advertising awareness tracking and a face-to-face survey of householders; and
- modelling of resulting CO<sub>2</sub> and utility bill savings to the consumer.

The evaluation showed that the energy efficiency campaign influenced people's energy-related behaviours. The 'behaviours' were small day-to-day activities, such as turning off appliances. The utility bill savings made by consumers compared well to the investment in the campaign.

In terms of methodological learnings, evaluation of energy efficiency advertising campaigns needs to analyse the original objectives and logic framework underpinning the intervention as well as looking for impacts. For example, the evaluation needed to identify what the original objectives were and how it would motivate people into action. A full evaluation may also require the collection of administrative data, such as website visits, to fully compare to the original campaign objectives.

Furthermore, social bias is a methodological challenge in environmentally-orientated surveys. People may project a positive picture of their behaviour. This evaluation provides approaches to help minimise such bias.

## **Introduction and background**

National advertising is widely used to promote energy efficiency. However, there has been less practical research in to how well it works. Not least, extensive field work is required and this can be expensive.

This paper provides the results of an evaluation of a national energy efficiency advertising campaign by the United Kingdom's Energy Saving Trust. The campaign aimed to promote the Energy Saving Trust as 'the place to go' for Energy Saving Advice.

The paper initially summarises the context of the campaign, the aims and objectives, and the campaign itself. It then describes four phases of evaluation. Firstly, it looks at the campaign's detailed aims and objectives to look at the underlying logic framework. Secondly, it provides the results of a media tracker awareness survey delivered shortly after the campaign through an on-line panel. Thirdly, it reviews website traffic and administrative data to see if people contacted the Energy Saving Trust. Finally, the paper provides the results of a large scale door-to-door survey undertaken several months after the campaign. This identified actual energy saving actions undertaken as a result of the campaign. This encompassed both behavioural activities and physical measures installed in dwellings. The results were used to estimate CO<sub>2</sub> and utility bill savings.

### **The Energy Saving Trust**

The Energy Saving Trust is a UK-based non-profit making organisation set up to mitigate the damaging effects of climate change. It is primarily funded by the UK's Department of Energy and Climate Change and the Scottish Government. The Trust's aims are cut CO<sub>2</sub> emissions by promoting the sustainable and efficient use of energy, water conservation and waste reduction. Its focus is the domestic residential setting; encouraging housing insulation and promoting energy efficient products and behaviours. It provides impartial information and advice through its website ([www.est.org.uk](http://www.est.org.uk)) and a network of local advice centres in the UK. These provide energy efficiency advice direct to the consumer.

### **Campaign aims and objectives**

The Energy Saving Trust campaign was launched in Autumn 2009, and involved television, radio and online advertising and PR. The target for the campaign was anyone aged 25+, who could own a residential dwelling, or was in the position to be the main decision maker. The campaign had the following 'direct' objectives:

- Raise awareness: position the Energy Saving Trust as the place to go for energy saving advice with a target of increasing unprompted awareness of the Energy Saving Trust from 3% to 8%
- Get people to interact with the Energy Saving Trust: to generate a contribution to 1.7 million customer contacts through the Energy Saving Trust website and 1.5 million through the Energy Saving Trust's advice centres.

The campaign also had more 'indirect' objectives. For instance, for 34% of website visitors (578,000) to take action to save energy.

## Designing the campaign

The following insights underpinned the campaign:

- The vast majority of consumers now accept that something needs to be done about climate change - 72% of people now believe that 'climate change is having an affect on the UK' and that 'there is a growing pressure to change the way I live to reduce the impact of climate change' (Ableman 2008a).
- They are asking for a clear direction on what they need to do to save energy – 76% agree with the statement “If the government wants me to do more to conserve energy, it needs to start letting me know what to do” (Ableman 2008b).
- In this crowded market consumers are confused about who to go to for advice - When asked who they would contact to find out more about saving energy 59% of consumers simply didn't know (Ableman 2008b).

The campaign had a number of tactics, which were also informed by research (Ableman 2009):

- Talk about 'avoiding waste' rather than 'saving energy' (saving energy implies sacrifice and partly relies on a concern about climate change, whereas the need to avoid waste is a common enemy that everyone agrees upon)
- Focus on saving money as being a main motivator
- Stimulate and seed action by giving people new energy saving tips. This counters the idea that they were doing all they could do.
- Encourage people to contact the Energy Saving Trust through the website and advice centres: promoting the idea that there are things the Energy Saving Trust can tell them 'they haven't thought about'. Clear the information overload: 'there are so many sources of advice, the Energy Saving Trust can be a single source that can be trusted'
- Provide a clear action plan - once people are in touch with the advice centres or website the Energy Saving Trust can customise advice and solutions for them and provide an action plan
- Make things simple, straight-forward, positive and helpful.

**Creative input and description of the campaign.** An external creative agency was commissioned to design a campaign. The result was a high quality cartoon 'Energy Saving Trust world', where 'Dave' and his 'energy saving house' was the star (Energy Saving Trust 2009). Dave was designed to be a mirror of the target audience (25 years+), but one who knows the Energy Saving Trust and can therefore be an advocate of its service as well as pose questions, like a 'normal' consumer. Dave was voiced by comedy actor Matthew Horne whose voice is very well known in the UK. During the adverts, he provides a range of energy saving 'top tips', such as:

- putting lids on cooking pans
- turning everything off
- checking the temperature of the fridge.

The adverts finish with advice to contact the Energy Saving Trust for further advice and ideas. The campaign was launched on 21st September with TV as the lead media, supported by radio and online advertising and PR. The campaign ran for four weeks up until 19th October. An estimate of the total media budget is £1.45m. Dave was also integrated into the Energy Saving Trust's promotional materials, website, monthly newsletter and social media activity.

## Evaluation results

The following provides the evaluation research results. It starts with a review of the campaign's logic framework.

### Review of campaign objectives and logic framework

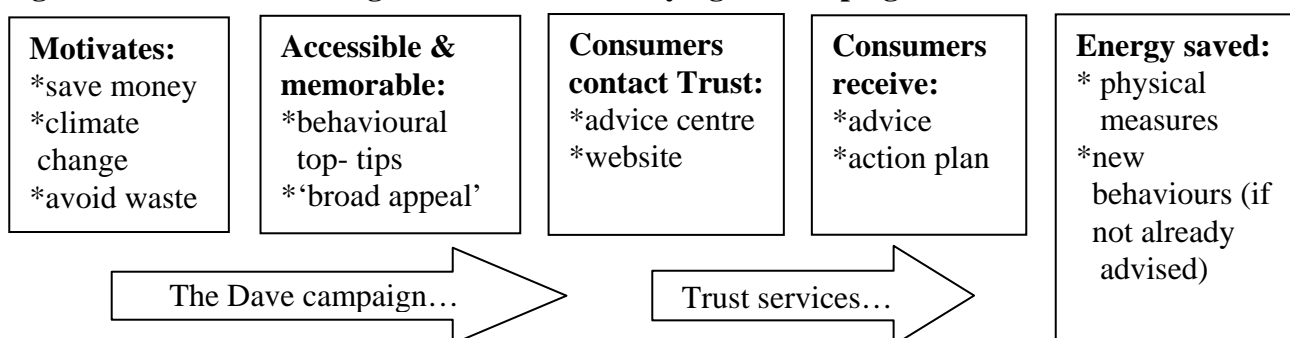
The campaign objectives sought to raise awareness of the Energy Saving Trust, and then motivate consumers to contact the Energy Saving Trust advice centres and website. Hence, strictly speaking, the campaign's success could be judged merely on additional website and advice centre contact rates, not any resulting changes in energy-related actions.

Generating energy saving actions was the subsequent role of the Energy Saving Trust website and advice centres, not the advertising directly. However, in practice, this evaluation also considered overall impacts in terms of a) small day-to-day behaviour changes (such as those given in the advertisement) and b) the installation of physical energy saving measures such as insulation in dwellings.

The insights and tactics underlying the campaign fit a logical approach. People are motivated by money, so a campaign based around energy saving and resulting savings from utility bills fits this. Furthermore, the advertising contained many energy saving behavioural tips, such as putting lids on pans for cooking. The idea was that these were clever tips or new ideas that people hadn't thought of. They would provide a further motivation to contact the Energy Saving Trust, to find more money saving ideas. Finally, the advertisement contained a message to contact the Energy Saving Trust. Here they would receive special advice and undertake physical energy efficiency measures. The overall logic to the campaign is reasonable (i.e. there is no obvious reason why it will not work). See Figure 1.

In terms of the overall outcome of the campaign, the main impact should be consumers installing physical measures, undertaken as a result of contact with the Energy Saving Trust.

**Figure 1. A model of the logic framework underlying the campaign**



### Awareness tracking research

Shortly after the campaign, awareness tracking research was conducted. This looked at a range of issues including:

- people's exposure to the advertising and campaign awareness penetrating the target audience;
- gauging unaided and aided advertising awareness and advertising message recall. e.g. raising recognition of the Energy Saving Trust, increasing awareness of what they can do, or where to go for advice;

- motivation and likelihood to change behaviour/take specific actions/contact the Trust;
- reinforcement of current behaviours, adding to their current behaviour repertoire;
- comparative impact of each advertising channel; and
- responses to the advertising executions.

The methodology used tracking research after each burst of advertising, interviewing a sample of 1,250 adults aged 25 plus. The sample allowed sensitive measurement of change. An on-line research panel was used, to allow all the different adverts to be shown and played, in rotation, to large numbers, and for a long interview length, equivalent to 20 minutes. The survey took into account not only response to the advertising but also comparative response to the wider advertising context of environmental messaging taking place around it.

The main results were as follows. The campaign met its objective to raise awareness of the Energy Saving Trust. The campaign reached 2 in 5 adults (38%). Unprompted awareness of the Energy Saving Trust rose from 3% to 8% (achieving the target). In addition, prompted awareness rose from 34% to 45%. As planned the campaign reached a broad audience, with TV particularly effective in reaching C2DE<sup>1</sup>'s and radio reaching 25 to 34 year olds. Television and radio had little overlap, with 8% seeing both media and 15% seeing just the TV or radio ad. The campaign was well received by consumers with 51% saying 'I watched/listened to it very closely and was really or quite drawn into it' and 54% saying 'It's really/ quite different from other advertising and stands out a lot/a bit.

In terms of campaign objectives to get people to engage with the Trust, the advertising tracker research identified that people were more likely to consider contacting the Energy Saving Trust. A third said they would consider going there for advice, compared with only a fifth of those who had not been exposed to the advertising.

The tracking also looked at whether people followed the actions proposed in the campaign. 7 out of 10 said that the advertising made them consider actions they could take to stop wasting energy at home.

### **Analysis of website traffic and other administrative data**

In addition, during the four weeks of the campaign the Energy Saving Trust had well over 160,000 visitors to the consumer website. Compared to the previous nine months (1<sup>st</sup> January to 20<sup>th</sup> September) the website saw a 47% increase in average web traffic. This is around 50,000 additional web hits over the month. Furthermore, numbers of people completing an interactive tool on the website (Energy Saving Trust's on-line Home Energy Check) increased by 33% (these are included in the 50,000).

Compared to the previous nine months, in bound telephone calls to the Energy Saving Trust advice centres were 34% higher. This suggests an additional 9,500 consumer calls due to the campaign. Another advice centre service, Home Energy Checks, increased by 21% (an increase of 11,000). This is an additional 20,500 contacts over the month.

Demonstrating that these increases in traffic and consumer calls were caused by the advertising is not straightforward. However, the trends do follow the expected direction given the logic framework: driving traffic to the website and advice centres was a specific campaign objective.

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<sup>1</sup> National Readership Survey Social Grades (A/B/C1 = middle class, C2DE working class and subsistence).

This suggests that the campaign met its objectives. It did encourage some people to contact the Energy Saving Trust website and advice centres.

### **Advertising impact survey**

To further gauge the impact of the campaign, a survey of consumers was undertaken three months after the campaign. While awareness surveys need to be undertaken shortly after the campaign, research into impacts needs a delay or dwell period to enable people to take some of the more physical measures (i.e. installations to their dwellings). Here, the timing was a balance to ensure people still remembered the campaign, but provided sufficient time to contact the Energy Saving Trust and then install energy saving measures.

The evaluation sought to identify:

- small day-to-day behaviours undertaken;
- physical energy saving measures;
- the CO<sub>2</sub> and bill savings; and
- if and how people were motivated by the campaign to take action.

The primary method used for the evaluation was a survey of energy consumers. The survey randomly interviewed over 1,500 people door to door, using a mixture of cluster sampling, quotas and weighting to ensure a representative sample of the UK population. The survey asked if people had installed a number of energy saving measures, or adopted energy saving behaviours, as a result of the advertising campaign.

**Design and management of the survey.** The design of the survey ensured it captured information accurately. In particular, the wording used to describe energy saving measures was designed to be understandable, rather than using correct but overly technical product language. The survey built on the design of previous similar energy-related door-to-door and telephone surveys, which have been developed over many years. In previous telephone surveys (used in other energy efficiency evaluations where telephone was more appropriate) we monitored the survey as it was being delivered. This helped identify confusing parts of the survey. The learnings from earlier telephone surveys therefore informed the design of the face-to-face survey used here. The surveys also had computer assistance to randomise answer options automatically so that 'top of the lists' do not get priority.

**Identifying actions taken by the consumer.** The survey contained questions designed to gauge influence (i.e. the influence of the Energy Saving Trust and its advertising in stimulating people into action). There were two approaches, one focussed on physical measures and the other behaviour changes. For physical measures, we began with questions about the house and recent energy saving activities undertaken. In particular, we asked which physical measures they had installed in the previous three months. After asking about all measures required, we then asked if people recalled the advertising campaign. This involved showing the interviewee the advert on a laptop. The survey asked about the campaign in its broadest sense, not just a specific television advertisement, but people's contact with the Energy Saving Trust and its website generally, or even articles written recently in newspapers.

If people had installed measures and recalled the broader campaign advertising, we then asked what level of influence the Energy Saving Trust and its campaign had on their decision to install them.

Interviewees were given a choice of different levels of influence for each physical measure they installed. This helps reduce social bias. For example, people may want to be positive, and say the campaign was a bit of help, even though they were going to install loft insulation anyway. Initial questioning can generate overly positive responses. However, through asking people directly in a separate question for each action how much the Energy Saving Trust influenced them, we could distinguish different levels: the highest level being assumed to have the lowest social bias.

In other questions in the survey, we also asked what other advertising or advice people had been provided with, including that from energy companies and local authorities. Where this was a significant issue, we offset the results or provided a measure of other organisations' media influences (see Table 1 for an example).

To evaluate behaviours, we cited the behaviour and asked people if they did this as a result of the Energy Saving Trust and its advertising (or other organisations). This generated data on people who were already doing the behaviour as well as that influenced by the Energy Saving Trust (see Table 1). However, while many say they adopt environmental behaviours, they didn't do these all the time. For example, people reported turning the lights off when leaving empty rooms. But when asked how often this behaviour was adopted, a proportion admitted to only doing it occasionally, perhaps just 25% of the time. These follow up questions also helped reduce bias. While some people may feel uncomfortable with admitting they don't try and save energy, revealing they only do it occasionally is more acceptable.

**Data and CO<sub>2</sub> modelling.** Using the identified measures and installations undertaken by people as a result of advertising, we modelled and calculated the actual CO<sub>2</sub> and utility bill savings generated.

This involved calculating the energy saving for each type of activity influenced. The estimate of saving from each type of physical improvement to dwellings was obtained from the Building Research Establishment Domestic Energy Model (BREDEM 2010). This commercially available model generates likely savings for a range of insulation and building improvement measures by dwelling house type<sup>2</sup>. Further allowances were made to these savings, including comfort taking (where people may prefer a warmer house than to claim the saving) and where physical monitoring projects of in-situ measurements had identified differences between theoretical and actual energy savings. Utility bill savings were derived from these, but included assumptions about the fuel mixes involved in each measure type. The average fuel mix was taken into account in calculating CO<sub>2</sub>.

Behavioural savings were calculated from assumptions about typical and average energy use in the domestic settings. Many assumptions were derived from the Defra Market Transformation Programme (Defra 2009). The 'briefing notes' provided under this programme are public consultation documents that allow stakeholders to examine data and assumptions behind proposed Government Standards and related projections.

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<sup>2</sup> The savings are consistent with the published savings factors by the Department of Energy And Climate Change, Carbon Emissions Reduction Targets (CERT); [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/consumers/saving\\_energy/cert/cert.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/saving_energy/cert/cert.aspx)

**Impact in terms of numbers of behaviour changes and CO<sub>2</sub> saving.** Based on the survey results, with the CO<sub>2</sub> savings applied, the campaign influenced annual saving of 94,500 tonnes of CO<sub>2</sub> annually (lifetime savings can be calculated but this claims benefits that have not yet happened). This represents annual utility bill savings of £26m. This compares well to the cost of the campaign (£1.4m) in that the utility bill savings are much higher than the cost of the campaign.

Comparing savings from physical insulation measures installed to behaviour change shows that most of the impact relates to behaviour change. 7,800 tonnes of annual CO<sub>2</sub> savings and £1.8m bill savings in a year resulted from installation of physical energy efficiency measures to dwellings. This compares to 87,000 tonnes of annual CO<sub>2</sub> and £24.5 utility bill savings in a year from behaviour changes, such as the energy saving top tips promoted in the advertising.

This suggests the campaign's impact related primarily to small behaviour changes. The CO<sub>2</sub> savings from behaviour changes advised in the advertisement were far higher than those from physical energy saving measures. This was unexpected, given the logic framework (i.e. the advice centres and website would drive further action, rather than behaviour change per se).

The actual proportions of people influenced into behaviour change were small in absolute terms (0.3% of people reported that they were 'keeping the lids on pans when cooking' as a result of the campaign, and 1.4% were 'checking the fridge temperature' - see Table 1). However, across the UK population, this represented several hundred thousand people taking action, although, it would take many repeat campaigns to use such an approach to influence a large part of the population.

The table also shows that most people feel they do these types of behaviours already. Hence, in the UK, it is unlikely that people see these tips as new or innovative. This needs to be a consideration in any advertising campaigns using these messages as hooks to capture interest.

**Table 1. Behaviour changes (and the cause of the behaviour change)**

<b>Behaviour changes</b>	<b>Already doing</b>	<b>As a result of the EST<sup>3</sup></b>	<b>As a result of another organisation</b>	<b>Don't do</b>
Keeping the lids on pans when cooking	73%	0.3%	0.3%	26%
Checking the temperature of my fridge	35%	1.4%	0.1%	64%
Only using the washing machine when you have a full load to wash	81%	0.8%	0.1%	18%
Turning the heating thermostat down at bit	74%	0.7%	0.0%	25%
Only boiling sufficient water needed	75%	1.9 %	0.9%	22%
Turning off lights and lamps in empty rooms not being used	94%	0.5%	0.1%	5%
Turning off household appliances instead of leaving them on standby	81%	1.6%	0.7%	17%
Washing clothes at 30c instead of higher temperatures	52%	1.9%	1.2%	45%

<sup>3</sup> As a result of the advertising or information you received from the Energy Saving Trust



## Analysis and conclusions

The Energy Saving Trust's advertising campaign was designed to motivate people through avoiding waste and saving money. The approach as a tactic was logical, and based on evidence. People were to be engaged through a high quality advertisement with tips for saving energy. Through improved awareness of the Energy Saving Trust as 'the place to go to save energy', motivated by an opportunity to save money and avoid waste, they would then contact the body through its website or advice centres. Here, they would be given a dwelling action plan to save CO<sub>2</sub>, and money through making changes to the insulation of their house.

Awareness tracking showed that the campaign reached 38% of the UK population (over 20 million people). The numbers of people stimulated into contacting the advice centres and website was estimated to be 20,500 advice centre consumers and 50,000 website visitors. As a result, around one in 300 people who saw the advertising contacted the Energy Saving Trust or its website.

Based on CO<sub>2</sub> and financial utility bill savings to the consumer, the campaign's main impact related to behaviour change. These were the small day-to-day behaviours advised in the advert. Less of an impact was observed from people undertaking actual physical measures. Nevertheless, based on the subsequent consumer utility bill savings, the campaign represented a good return on investment.

Overall, far more people took away the message to follow the behaviours advised, rather than to actually contact the Energy Saving Trust and undertake physical measures to their dwelling. This was true both in absolute numbers and CO<sub>2</sub> savings. However, the dominance of behavioural impacts was not predicted by the campaign, both in terms of campaign objectives and the logic framework. It was expected that the main impact would be from physical measures, generated through contact with the advice centres and website. Aspects that could be included in further research include:

- Many did not make contact with the Energy Saving Trust after seeing the advertisement, what were the other barriers stopping people from making the choice to contact the Energy Saving Trust? What level of motivation was needed to surmount these barriers?
- The advert did not include a climate change message – could this have been an additional motivator to saving money and avoid waste?
- Did people need guidance in how much they might save, to act as a further motivator?

This evaluation also shows that most people felt they were already following most of the behavioural tips given in the advertising (even though they may not be doing them all the time). This is useful information for future behavioural-related energy efficiency advertising campaigns in the UK.

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