CHANGING ENERGY BEHAVIOUR

Intelligent Energy Europe

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Guidelines for Behavioural Change Programmes

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Introduction

Europe and its Member States are adopting and implementing policies aimed at reducing the emission of CO_2 into the atmosphere. Some of these policies will deal with large system changes as Europe is switching from a dependence on fossil fuels to the use of other sources of energy. Other policies will encourage changes in everyday behaviour among Europe's citizens as they adjust to a more sustainable way of life.

In order to improve policy interventions aimed at influencing the behaviour of consumers, the European Commission, under the Intelligent Energy for Europe programme, decided to co-fund the project BEHAVE. The aim of this project has been to draw lessons from an evaluation of 41 energy behaviour change programmes from all over Europe, combine them with insights from theory, provide an overview of best practices, and create guidelines to develop and implement successful policy interventions aimed at consumers. The EnR Working Group on Energy Behaviour Change has carried out the project. EnR is a network of National Energy Agencies. The project builds upon the *SAVE Guide to Change Energy Related Behaviour* (Greer et.al., 2000), a similar project that reviewed energy behaviour change programmes and projects from the period 1990 – 1998.

In the past, programmes aimed at changing energy behaviour struggled with various degrees of citizen motivation and policy attention. At the start of the BEHAVE project at the end of 2006, the influence of human behaviour on climate change was still debated. Today, a general consensus agrees on the urgent need for radical change in the way we use energy. Citizens of Europe are worried by global warming and want to contribute to a more sustainable society, but they need advice and support to do so.

In the past, programmes aimed at changing energy behaviour struggled with various degrees of citizen motivation and policy attention.

The current interest in global warming creates the need for policy makers to develop and implement behavioural change programmes. These programmes, however, will only be successful if they are well planned, focussed, and built on the collective experience of earlier programmes, as well as on scientific insights into behavioural change interventions. With this publication, we aim to contribute to the successful planning and execution of these programmes.

About this publication

This publication starts with a brief overview of the importance of behavioural change for a sustainable energy future. It then discusses theory and a planning method for behavioural change programmes. This is followed by an overview of lessons learnt in 41 cases in Europe over the past years. The publication ends with pointers for policy makers and programme developers, and conclusions about the achievements made since the publication of The Guide to Change in 2000.

1 Overview of Energy Use and Human Behaviour

Energy use is omnipresent, and the demand for energy still increases. Despite efforts in past years to switch to more sustainable sources of energy, fossil fuels still dominate the energy mix, resulting in harmful environmental impacts. A reduction in the use of energy is needed for Europe to meet its sustainable energy goals, next to other policies.
We can reduce our energy consumption by using energy more efficiently, investing in energy efficient appliances and energy conservation measures, and by adopting a more energy-efficient lifestyle—in short, by changing our behaviour.

1.1 Energy use

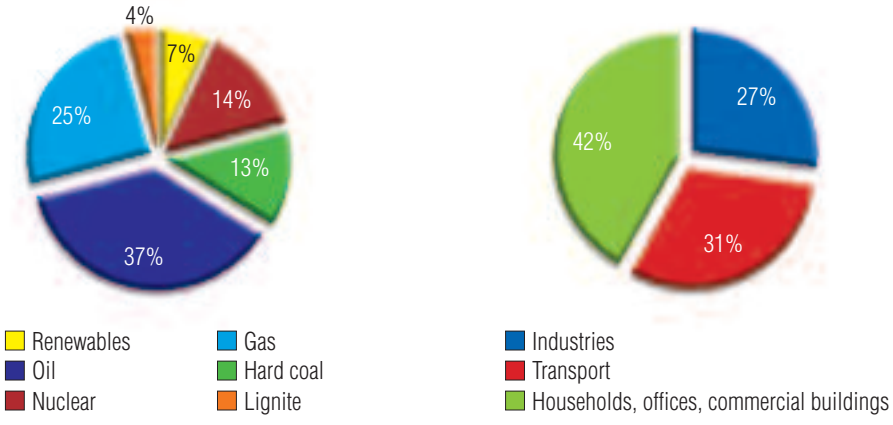
Improving energy efficiency is today believed to be the fastest and most cost-effective method of limiting global warming. It reduces energy demand, thereby reducing the cost of using energy services, and improves Europe's security of energy supply. Based on present trends, by the year 2030 the European Union will be dependent on imported fuels for 90% of its oil and 80% of its gas.
Energy is used in Europe in industries (27%), in transport (31%), and in households, offices and commercial buildings (42%). Total European energy use is about 1825 Mtoe p.a. (www.energy.eu, 2006 data). Energy use is increasing rapidly, explained by a general increase in the standard of living: smaller households, increasing floor space per capita, and increasing use of energy consuming domestic appliances. In EU countries with lower but growing GDP per capita, consumer energy use is now growing fast. People are buying more appliances and the markets are far from saturated.

Improving energy efficiency is today believed to be the fastest and most cost-effective method of limiting global warming.

A strategic view on energy use includes addressing the following energy use issues (Enova, 2008):

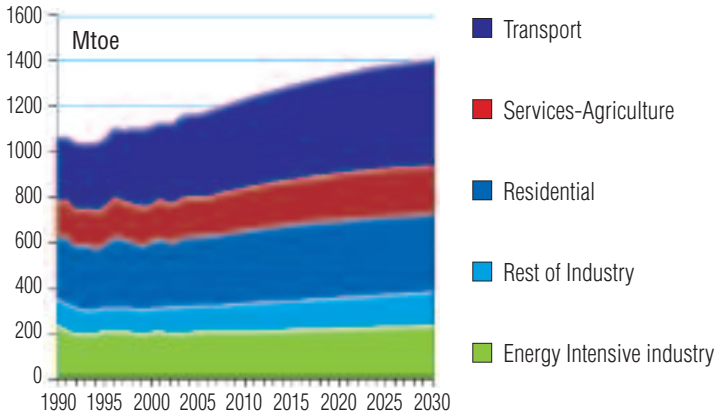
1. Structure: How do we build society? Which houses do we live in? Their size? Quality? Energy needs? Strategy: Build structures with low energy needs!

Figure 1.
End energy use in Europe-27 (2007)



Source: Energy, transport and environment indicators. Eurostat, 2007

Figure 2.
Final energy demand by sector 1990-2030



Source: European Energy and Transport, Trends to 2030 – Update 2007. EC DG TREN, 2008

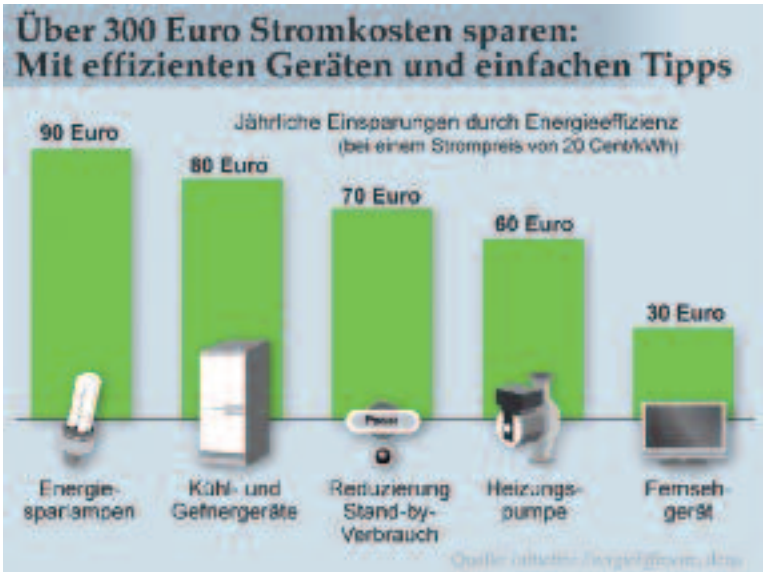
How does man interact with technology in such a way that energy wastes are avoided?

2. Technology: Which machines and gadgets do we fill the structure with? What are their functions and how is their quality? Strategy: Complement the structure with energy-efficient technology!
3. The consumer, that is: How does man use the technology? Habits, attitudes, norms, knowledge, abilities? Strategy: Interact with technology in such a way that energy wastes are avoided!

In this publication, we focus on the third issue: To influence the way consumers use energy and interact with technology.

Switching off the TV rather than leave it on standby will save, in Spain, 40 million € and avoid 300,000 tonnes of CO_2 emissions.
Source: IDAE (Spain)

Energieeffizienz Campaign.
Source: DENA (Germany)



1.2 The potential of behavioural change policies

Energy behaviour is either investment or habitual behaviour. The former typically involves the adoption of a new technology, perhaps the purchase of a new appliance. Habitual behaviour is routine behaviour such as turning off the lights when leaving a room. Changes in this consumer behaviour can lead to important savings in energy use. A literature review of 2000 references in 37 articles and books made clear that the changing energy related behaviour can potentially save about 19% (±5%) of our energy consumption (Kok et.al., 2007) The savings are due to changes in conservation, lifestyle, awareness, low-cost actions, and small investments.

A similar study for American households (Laitner et al, forthcoming in 2009) reports on the question: *How much of an energy efficiency gain might be supported through smart or improved behavioural decisions in the household sector?* The researchers explored 100 separate conservation and energy efficiency measures (all cost-effective) that could be taken in a short period of time. A Monte Carlo probability simulation—allowing random distribution of participation, effectiveness, and saving magnitudes—revealed an energy saving potential of about 220 Mtoe compared to current use. Results are shown in Table 1.

Table 1: Energy saving potential of behavioural change actions

Category of actions	Potential national energy savings (in Mtoe)
Conservation by lifestyle, awareness, low-cost actions	123 (57% of total savings)
Investment decisions	93 (43 % of total savings)
Total energy savings	**216 (22% of household energy)**

Flower Lamp.
Source: Interactive Institute (Sweden)

Behavioural change programmes offer considerable potential for energy conservation.

A further study, on the potential savings from household behavioural change in the United States (Stern et al., forthcoming 2009), examined 24 types of behaviour, divided in 4 classes: weatherisation (work on the exterior of a building to reduce energy consumption), energy-efficient equipment, adjustment and management, and daily activities or routines. The study resulted in the conclusion that a fully-fledged programme could lead to an adoption rate of 80% (of measures) in 10 years time. This programme would entail multi-channel, multi-target marketing, and community-based programmes, and financial incentives.

Table 2: Energy Saving potential of behaviour change actions

Category	5 year	10 year
1. weatherisation	2.8 %	5.8 %
2. other equipment	4.6 %	9.8 %
3. adjustment and management	1.3 %	2.9 %
4. daily activities	3.7 %	4.0 %
Total	**12.5 %**	**22.4 %**

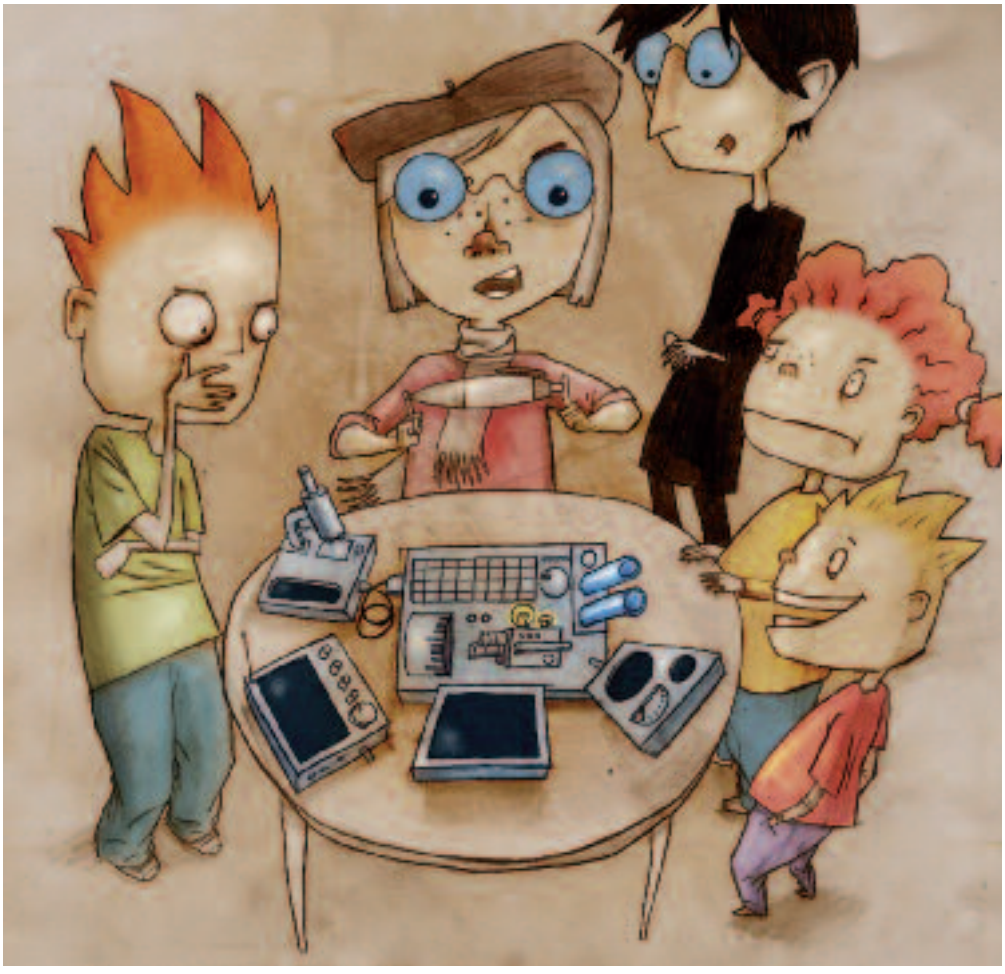
To conclude, behavioural change programmes offer considerable potential for energy conservation. Its potential and feasibility are demonstrated by the case studies described in this publication.

1.3 From energy policy objectives to programme development

A decision to invest in changing citizens' energy-related behaviour starts at the policy making level. A government develops long-term priorities and goals for energy conservation and energy efficiency; as discussed above, energy conservation and efficiency are today seen as representing a significant and essential component of all strategies and policies on the provision and consumption of energy for society. Since energy consumption is distributed across society, no policies for energy conservation or efficiency can ignore the need to involve the decision-maker – the individual consumer.

Getting energy conservation policies and strategies *right* is the first essential step towards achieving the behaviour changes needed. Care in moving from policies to the specification of proposed programmes is the next important step. It is perhaps here that the biggest mistakes are made.

No policies for energy conservation or efficiency can ignore the need to involve the decision-maker – the individual consumer.



Rainmakers Campaign. Illustrations by Lars Hegdal.
Source: Enova (Norway)

Individuals' habitual and/or investment behaviour is itself an essential component in reducing consumption patterns.

One of the challenges for policy makers is to choose the right mix of instruments to influence energy behaviour. This document presents a method that may help to make choices for choosing effective instruments. First, however, we briefly discuss some aspects of policy making for behaviour change – acknowledging that it is high-level policy making and its proposals for behavioural programmes that set the initial specifications for the development and design of those programmes.

Policy makers' concerns with energy-related behaviour change

Energy supply strategies are usually long-term and broad in nature, perhaps setting a framework of goals and actions within a time horizon of ten to thirty or more years. It is within such a long-term strategy that policies for energy-related behaviour change are usually set. Behavioural change is often included in national plans and strategies as a short-term intervention, as a quick fix. A longer-term policy for behavioural change, however, can be more effective.

Policies relating to aspects of behaviour derive from a spectrum of motivations, *from:*

- A need to raise citizens' awareness and understanding of the need for concern about energy in society – important in gaining acceptance of other major policy measures which may be unpopular or controversial, *to:*
- A desire to win individuals' commitment to the idea that they have a role to play in reducing energy demand, *and to:*
- A recognition that individuals' habitual and/or investment behaviour is itself an essential component in reducing consumption patterns.

Enova's Rainmakers Campaign.
Source: Enova (Norway)

Rainmakers Campaign.
Illustrations by Lars Hegdal.
Source: Enova (Norway)

While this spectrum of concerns necessitates engaging with individual citizens and with small social groups, only the last of these is, in fact, concerned with behaviour change. The others are concerned with promoting general understanding. While all may represent valid policy concerns, we must clearly distinguish between them because programmes and instruments appropriate to each lead to quite different outcomes. Our focus is on the last concern, and in the section below we present our approach to it.

Unfortunately, political pressures often lead to the need for taking quick, visible actions. This may translate into programmes which create attention, but which in reality result in little by way of changed behaviour. Of course raising awareness is desirable, but it may not in itself achieve much by way of reduced consumption.

From policies to the specification of programmes

Political pressures often lead to the need for taking quick, visible actions.

Due to the pressures described above, it is frequently the case that those aspects of energy policy and strategy that relate to behavioural change are translated into advertising and promotional programmes. Public relations and advertising clearly may play a part in a wider-ranging programme. However, if the objective is lasting behavioural change then PR and advertising activities are in reality peripheral or complementary to the main programme, rather than providing the main tools for change.

The comments below refer to the *specification* of behavioural change programmes, rather than to the detailed design and implementation of such programmes (the detail of programme design and implementation is the focus of the remainder of this guide).

In all cases, the effectiveness (and *cost*-effectiveness) of behavioural change programmes will be greatly increased if adequate time and consideration is given to identifying the approaches, instruments and programmes most likely to yield the desired outcomes, *at the time of writing policy and of proposing new programmes*. The following should be considered:

a. Take time to prepare action (programme design, resourcing and implementation): Jumping into immediate and visible action may account for the bulk of the mistakes made in developing a behavioural change programme. Careful consideration of what changes are expected and how they may be brought about *always* pays off.

b. Seek synergies through collaboration between departments: Before embarking on an entirely new programme focusing on behavioural aspects of energy conservation, policy makers and implementers alike should identify what other parallel programmes exist or are being developed in related areas. The most obvious here are behavioural programmes concerned with aspects of environmental management, including those that aim to increase awareness and induce behavioural change in relation to climate change. More cost-effective approaches may be found through integrating programmes which are complementary to one another – or that may be *perceived* to be complementary or overlapping by the public.

c. Seek synergies with private and civil sector activities: Programmes are often more effective when these are supported by a wide range of parties, from governments to the

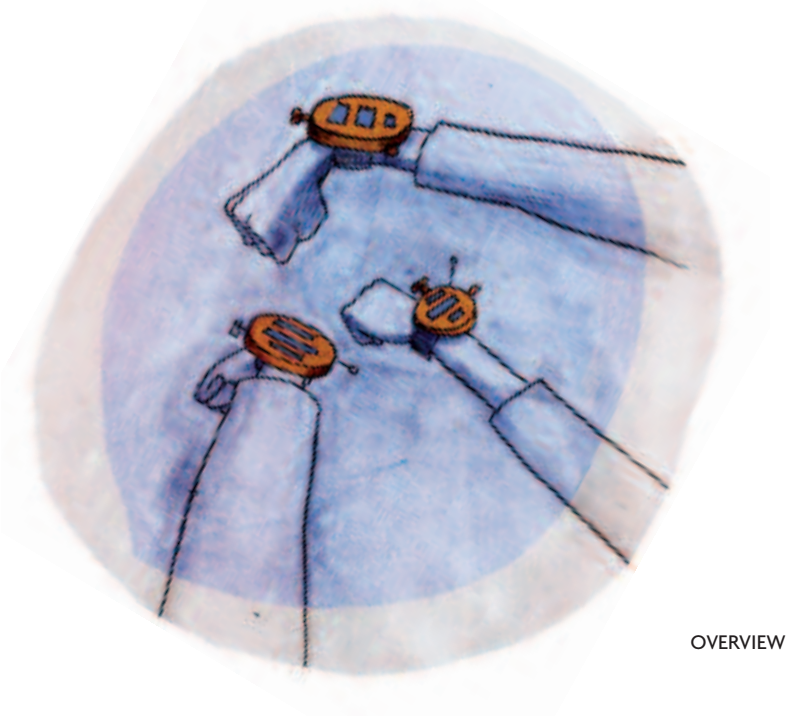
A basic tenet of what is now called social marketing is that multi-disciplinary approaches to behaviour change are more effective than those that derive from one discipline only.

private sector. Activities can be complementary, thus reinforcing each other, and achieving better results for all at lower costs.

d. Identify what has been done previously that has been effective, in comparable fields (not energy alone): All too often, behavioural change programmes are developed as though it is the first time they have been conceived. In reality, there is by now a great deal of accumulated experience in such programmes, as the case studies examined in the BEHAVE project illustrate. Furthermore, there is a vast body of experience in other fields, such as public health, drug control, citizenship and the environment.

e. Involve appropriate expertise across a range of disciplines: It has been mentioned above that many so-called behavioural change programmes are handed over to public relations and advertising consultants. Yet much of what can be incorporated into such programmes derives from research and experiences in areas such as social psychology, sociology, economics, and in public and commercial marketing. A basic tenet of what is now called social marketing is that multi-disciplinary approaches to behaviour change are more effective than those that derive from one discipline only. Those who are involved in moving from policy to the specification of programmes for action should consult as widely as possible across disciplines.

f. Highlight the importance of specific behavioural goals, target market(s) and timeframes: It is important to establish clear behavioural goals and target markets, as a part of programme design. Detailed goals, however, cannot adequately be set in high-level policy. Therefore, policy makers should insist on the development of specific goals to be realised by behavioural changes, and on adequate market segmentation, as part of the programme development and implementation process.



Rainmakers Campaign. Illustrations by Lars Hegdal.
Source: Enova (Norway)

2 Theory on Behavioural Change Programmes

Experience shows that interventions aimed at changing the behaviour of individuals and organisations are only effective if they are set up systematically and according to a planning model. Often, planning starts with mapping out the interventions that should be implemented followed by a description of the effect that the intervention should have on the target group, and the resulting expected change in their behaviour. This approach can be described as the instrument-oriented approach: the behaviour to be influenced by the programme's instruments, is considered to be a black box—apply an instrument and wait to see what the outcome is.

Figure 3.
Programme development under the instrument-oriented approach

The backdrop of this approach is that it usually does not take sufficient account of the complexity of the situation that needs to be changed and the multitude of factors that are relevant for introducing a different behaviour. As a result, actions, even when properly implemented, often don't lead to the desired change in behaviour. A more change-oriented approach helps to overcome this disadvantage.

If we want a change in behaviour to be permanent, it requires reinforcement. "Reinforcing factors" include feedback from peers, experts, authorities and customers.

The change-oriented approach opens up the black box of behaviour, and assumes that behavioural change occurs if people are motivated and enabled to change. This approach focuses on the factors that *motivate* people to change their behaviour. The so-called "motivating" factors are awareness, knowledge, attitude, social and personal norms, and self-efficacy. These factors lead to an intention to perform the desired behaviour. They are internal, intrapersonal factors.

Motivation by itself, however, is not enough; one also has to be *able* to perform the desired behaviour. The change-oriented approach therefore also focuses on "enabling factors". These are, for example, financial, organisational and technical resources, and new skills. These factors are external to the individual. Motivating and enabling factors can influence individuals to start the desired behaviour.

Finally, if we want a change in behaviour to be permanent, it requires reinforcement. "Reinforcing factors" include feedback from peers, experts, authorities and customers. These factors are also external to the individual.

The change-oriented approach logically leads to a goal-oriented planning scheme that takes into account that both internal (personal) and external (contextual) factors influence behaviour. In addition, it should recognise that programmes should clearly differentiate between the design and implementation stages, with distinct steps in each stage.
A model with these characteristics is described in more detail in the next section, and in chapter 3 we demonstrate how it can be applied in practice.

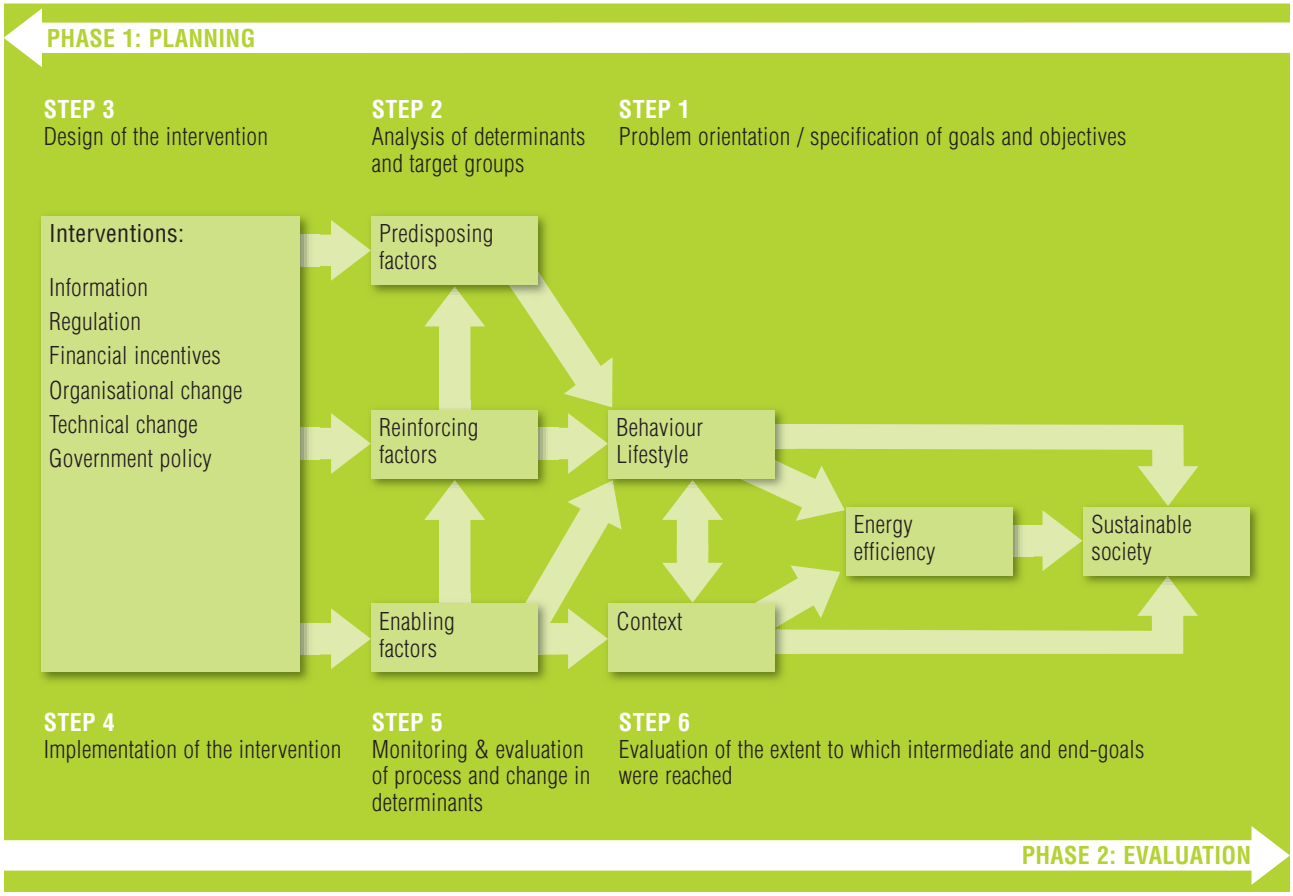
Energy Awareness, Children experiencing the power of wind at Eureka Science Centre in Finland.
Source: Motiva (Finland)

2.1 Planning & evaluation model

Figure 4 (below) presents a step-by-step planning and evaluation model, based on a model developed by Green and Kreuter (1999). This model was originally aimed at directing change/behaviour change processes in health promotion. The ideas and insights that can be drawn from this model are very useful in the field of energy conservation, and it can be a helpful tool for changing processes in this area. It consists of six steps in two phases:

- The first phase, the design phase, consists of three steps: define the goal, analyse the influencing factors of behaviour, and choose the appropriate instruments.
- The second phase, the implementation phase, also consists of three steps: implementation, monitoring and evaluation of the programme.

Figure 4. Planning and evaluation model



The motto of the model is "Beginning at the end". It starts with a clear definition of the problem and the desired solutions. What exactly is the outcome that needs to be achieved? It is vital to define the exact problem before moving ahead. The next step is to look at the factors that influence the process. This is important because in the field of energy conservation especially, there still is a strong tendency to develop objectives that focus on instruments, rather than on the problem itself.

The motto of the model is "Beginning at the end". It is vital to define the exact problem before moving ahead.

The model is presented in two main phases: the planning phase and the evaluation phase. Within these phases are six steps; three related to 'planning' and three to 'evaluation':

Planning

Step 1: Problem orientation and specifications of goals and objectives;
Step 2: Analyses of determinants and target groups;
Step 3: Design of the intervention.

Evaluation

Step 4: Implementation of the intervention and start of the monitoring: Has the intervention been carried out as planned? What were the barriers that had to be dealt with?
Step 5: To what extent has there been a change (improvement) in the determinants of change? Among which target groups?
Step 6: To what extent were the ultimate and intermediate goals achieved? (impact evaluation)

« You control Climate Change » Campaign's launch event in June 2006 in Helsinki.
Source: Ilmo Pylkkänen, Viherjuuri (Finland)

The steps in the planning phase are detailed below.

Step 1 – Problem orientation and specification of goals and objectives

The level of detail in which objectives are formulated may vary, but in all cases it is necessary to translate the required results very precisely into specific objectives that answer the question: What should be changed, among whom, when and to what extent?

Although it is not always easy to make a distinction between behavioural and contextual factors because they are so closely related, changes are always related to specific actors or target groups. Behavioural factors usually play a direct role, and contextual aspects an indirect one. Behavioural factors are (for example) related to purchase or investment or usage of a product, whereas contextual changes are related (for example) to the availability of a product. The changes involved can apply to prevention, such as de-motivating the purchase of products with a high-energy use, or they can try to influence existing behavioural patterns (for instance, stimulate less use of hot water), or they can focus on learning new behaviour, such as using green electricity.

Rainmakers Campaign. Illustrations by Lars Hegdal.
Source: Enova (Norway)

It is important, in this phase, to do a detailed market segmentation.

Following an inventory of these factors, we need to look at the relative weight (frequency, level of influence) and their ability to change (habit). Based on this ranking, we can prioritise the possible choices (interventions with a high interest but with a low or unknown impact deserve a relatively high priority: this can lead to the development of new innovative programmes). This leads to much more focused knowledge of *which* changes we want to realise with *what* target groups. Now we can start to formulate our objectives in terms of 'what', 'who', 'how much' and 'when'.

It is important, in this phase, to do a detailed market segmentation, so that the analysis, and later on the implementation of activities, can be tailored to specific segments of a target group. Target groups should be carefully selected so that activities can be specifically set for the behavioural changes that are requested of a specific group, rather than sticking with a one-size-fits-all approach.

Step 2 – Analysis of determinants and target groups

In the first step, we have analysed the problem in terms (a) of our ability to change those factors that contribute to the problem, and (b) the target groups involved. The second step involves analysing the determinants that underlie the desired change. The model describes three categories of influencing factors:

- Predisposing factors (knowledge, attitudes, beliefs, perceived needs and individual capabilities);
- Enabling factors (conditions, facilitating factors e.g. availability of products, regulations, subsidies);
- Reinforcing factors (positive feedback, physical or social or financial benefit e.g. support from the (local) government, feedback on energy saved.

Another 'group' of influencing factors are socio-demographic factors. Examples are sex, age, education level, income, composition of the household etc. These factors, however, cannot be changed by carrying out interventions. They are 'used' to make segmentations of target groups.

In the area of changing energy-related behaviour, attention is usually given only to the first category, namely, the predisposing factors. The influence of the factors in these three categories on the desired changes must be carefully analysed before the development of interventions per target group. This process has three steps:

1. Conduct an inventory of all the factors and place them in the three categories;
2. Choose priorities *between* the categories;
3. Choose priorities *within* the categories.

As stated before, the frequency, the urgency and the ability to change can determine the relative weights assigned to the factors.

Step 3 – Design of the intervention: Choosing the matching instruments

To influence predisposing factors we can undertake a number of activities, depending on what we are trying to influence. For instance, we can motivate the target groups by increasing their knowledge of the effects of their behaviour. Disseminating information amongst them, either by mass-media campaigns, written material such as brochures and leaflets, or face-to-face discussions, can do this.

Analysis of the influencing factors should give us more insight in predicting the relative weight of these factors in explaining or predicting change.

To enable the target group to adopt the desired behaviour, we have to create the necessary conditions. These can be of a technical nature, but they may also involve instruments such as laws and regulations, or training courses.

Reinforcing factors are responses from the environment to the established changes, both during and following the change process. Examples are feedback, financial incentives (both reward and punishment), and social support.

Analysis of the influencing factors should give us more insight in predicting the relative weight of these factors in explaining or predicting change. Table 3 presents a general overview of the kind of interventions which might be employed in trying to change energy related behaviour; the average amount of change that may be expected from them; and the kind of factors that play a prominent role in bringing about (behavioural) change.

Table 3: General overview of interventions: average amount of change and type of factors.

		Factors		
	Likely Saving	**Predisposing**	**Enabling**	**Reinforcing**
Contracts and reward (+/-)	6 %	X		X
Financial incentives	3 %			X
Fin. incentives + information	5 %	X		X
Information dissemination	1-2 %	X		
Specific information	3 %	X	X	
Financial support	9 %		X	
Tailor-made info	16 %	X	X	
Tailor-made + fin. support	16+ %	X	X	
Weekly feedback + info.	10%	X		X
'Ecoteams' (high impact amongst small population)	15 %	X	X	X

Steps 4 and 5 – Implementation of the intervention and Monitoring & evaluation of process and change in determinants

Step 4 is the first step to be taken in Phase 2 of the model. During the implementation of the interventions, it is important to follow its process in a structured way. Therefore step 4 and 5, though listed in different steps, will be carried out simultaneously.

Monitoring means providing feedback to the programme management to check whether the programme is on track and to provide performance data for the evaluation. Insight is gained from answers to questions such as:

- Were the interventions carried out as intended?
- Did they reach the target groups at stake? Did the groups understand the message?
- How did the target groups appreciate the kind of interventions that were carried out?
- Did the interventions meet the groups' expectations?
- What is the perceived effectiveness of the interventions in the view of its developers, intermediaries, representatives of the end target groups?
- What were stimulating and restricting factors in the implementation process?

Answers to these questions are important to develop an understanding of the reasons/explanations why effects do or do not occur. This kind of information is of great help to other developers of interventions in composing their programs and to learn of experiences of others.

Share Aware Light. Photo and Concept by Interactive Institute (Sweden)

It is important to gain an insight into the reasons for the success or failure of interventions.

Process evaluation, as described in this step is also called (in literature) 'formative evaluation'. It is the kind of evaluation that attempts to describe the process of an intervention in a structured way. In this way, it is possible to gain an insight into the reasons for the success or failure of interventions. This kind of evaluation uses effect evaluation, also known as 'summative evaluation'. In summative or effect evaluation data are gathered in order to determine if the project has met the objectives that were set in step 1.

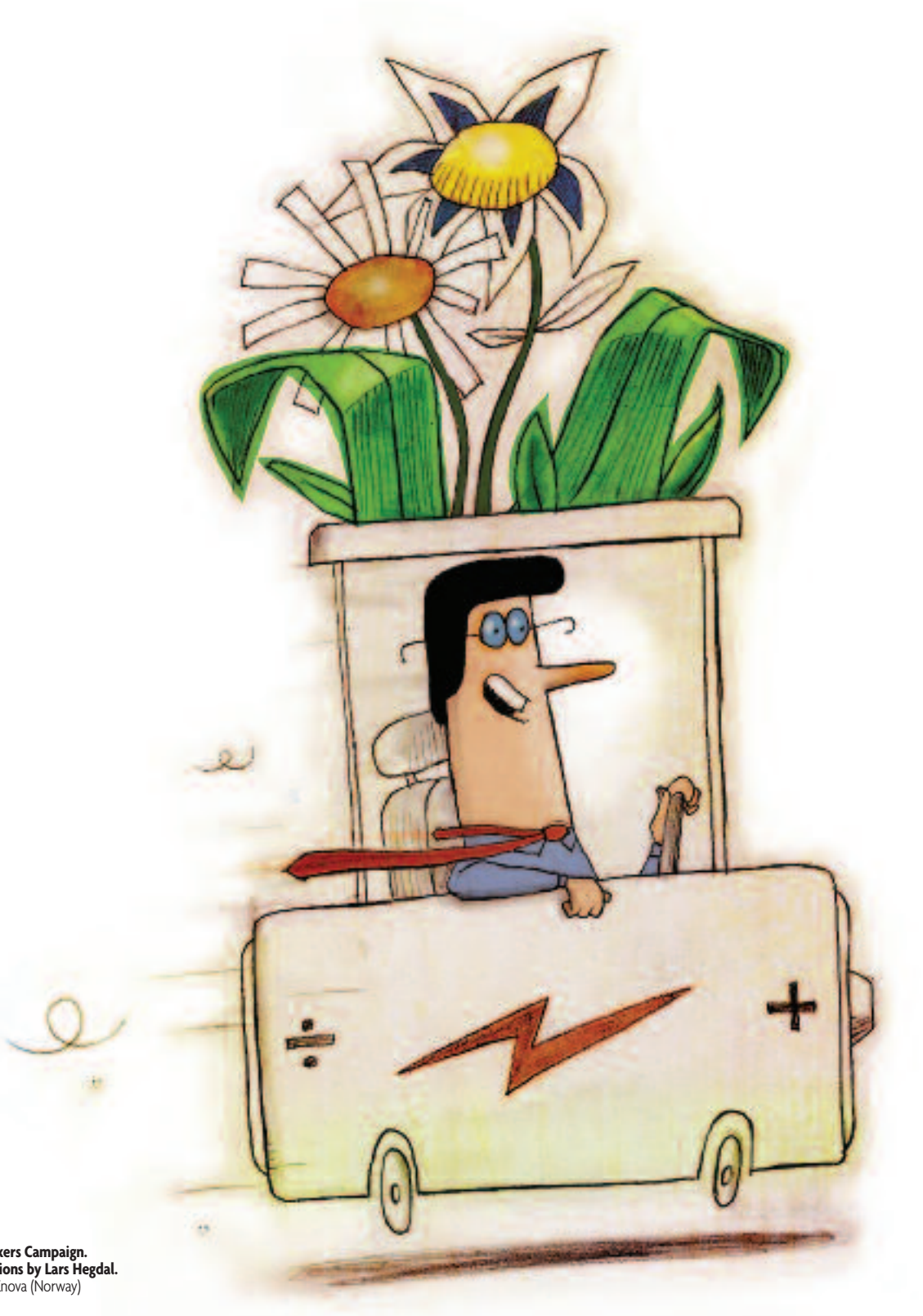
In this phase of the evaluation, the effects of the interventions undertaken are established. That implies trying to find out to what extent there have been changes in the three categories of influencing factors, as were described in step 2. Are there any changes in, for example, the level of knowledge, attitudes, perceived needs and capabilities of the target groups? Are there any changes in facilitating factors like the availability of products, which can be related to interventions?

Step 6 – Evaluation of the extent to which intermediate and end-goals were reached.

In this step the focus is on reaching the ultimate goals of the programme. The most important question to be answered in this step is:

- To what extent have changes been established at behavioural and environmental levels; and
- To what extent have these changes contributed to energy savings or CO2 emission reduction?

The model presented in this chapter provides the starting point from which we have analysed the case studies, and drawn the lessons presented in the subsequent sections.



Rainmakers Campaign.
Illustrations by Lars Hegdal.
Source: Enova (Norway)

3 Practical Guidance for Programme Development

In this section, we provide practical guidance, based on lessons learnt in currently implemented projects, about the application of the Precede-Proceed planning model for behavioural change programmes. Guidance includes hints about the steps in the planning process, as well as ways to improve the effectiveness of intervention strategies.

Guidance is provided broken down by the six steps of the planning model, as discussed earlier in this document.

The actions on defining the goal and meeting this goal, determine the target group and the necessary changes in the group's behaviour and context.

Step 1 – Problem orientation and specification of goals and objectives

The actions for defining the goal and meeting this goal, determine the target group and the necessary changes in the group's behaviour and context.

To achieve a specific goal, the relevant behavioural and contextual changes have to be established. For example, to reduce CO_2 by 20% in 20 years, increasing the purchase of CFL bulbs by 30% in one year might be established as a behavioural change. In this first step of the design of a programme, there are at least two important considerations: changeability of behaviour, and targeting.

Save Energy in Good Company. Collaboration IDAE-Disney Channel.
Source: Disney Channel España (Spain)

SELECT A SPECIFIC TARGET GROUP

Case E-3, SAVE ENERGY IN GOOD COMPANY is a good example where the focus of the intervention specifically targets children by using the Disney Channel. To raise the awareness of children, Disney figures pointed out behaviours such as "turn the light out" and "don't waste hot water"; these advertising spots reached 600,000 children.

Start with the behaviour that has the greatest impact and is easiest to change. To do this, the changeability of the behaviour has to be determined. The behaviour to be changed can be habitual behaviour. Examples include retailers who automatically point to incandescent bulbs when customers come in, or consumers, who still think CFLs give ugly light, etc. Finally, one has to decide on which group to target. This can be the retailers of light bulbs, consumers, producers of CFLs, or a combination of these.

Save Energy in Good Company. Collaboration IDAE-Disney Channel.
Source: Disney Channel España (Spain)

Performing pre-research can lead to the development of a well-targeted programme.

RESEARCH ON BEHAVIOUR THAT CAN BE CHANGED

Case UK-1, **ADVERTISING CAMPAIGN FOR EST MY HOME** shows how performing pre-research can lead to the development of a well-targeted programme. Previous advertising and PR evaluations were combined with market research and research and development of a detailed segmentation model. This led to a campaign that addressed different segments in the target group and developed different delivery channels.

SELECT INSTRUMENTS THAT HAVE A SUBSTANTIAL IMPACT

Cases E-7 and E-8, PLAN RENOVE & TRAINING PLAN FOR DOMESTIC APPLIANCES SALES PERSONNEL is a good example of using more instruments to target consumers; subsidies and information were deployed to stimulate buying A++ appliances. Also, salesmen—influential external actors—were trained to promote sales of A++ appliances. Internal and external groups were targeted to reach the goal: more A++ appliances.

Example: Assessment of the target group and its behaviour

In one recent example of the design of a behavioural change programme, households in a neighbourhood were chosen as target group. The energy-related behaviour was established by reviewing relevant literature and by organizing focus groups in the neighbourhood. This research on behaviour and goals led to the following results. A conservation goal of 10% could be established by changing the following energy conservation behaviour:

- Use CFL bulbs, and apply weather strips;
- Turn out the lights and heating in rooms that are not used.
- Defrost the freezer on time,
- Wash the laundry of a fully loaded machine at a lower temperature.
- If the weather permits, dry the laundry outside.
- Turn the thermostat one degree lower; one hour before going to bed;
- Set the thermostat to a lower temperature at night: 15 degrees night time temperature;
- Turn appliances completely off, not on standby.

The identification of the factors that can effectively lead to the behavioural and contextual changes, can be done by analysing the target group and its context.

Step 2 – Analysis of determinants and target groups

The identification of the factors that can effectively lead to the behavioural and contextual changes, can be done by analysing the target group and its context. For example, focus groups or surveys with questionnaires can supply much data that can identify the most important influential factors. Note that these factors can be barriers to change that need to be removed or benefits for behavioural change that can be added. Examples of a focus group protocol and a summary of a questionnaire are given below.

GUIDANCE NOTE 1: TYPES OF INFLUENCING FACTORS OF BEHAVIOUR

Influencing factors can be one of three types of factors.

(1) Motivating factors are individual, internal drivers of behaviour. These factors are awareness, knowledge, social influence, attitude, perceived capabilities and intention. For people to intentionally change their energy behaviour, they must become aware of their energy use, pay notice to it, and be informed about the consequences. And, they must be motivated to use the available information and instruments to control their energy use.

(2) Enabling factors are the external constraints on behaviour. These factors allow new behaviour to be realized. Factors involve external financial, technical, organisational and judicial resources. Examples of instruments that influence these factors are subsidies, availability of products in shops, and the availability of specific advice. New skills may have to be acquired to realise the desired behaviour.

(3) Reinforcing factors are those consequences of actions that give individuals positive or negative feedback for continuing their behaviour. These include information about the impacts of past behaviour (e.g., lower energy bill), feedback of peers, advice, and feedback by powerful actors.

PROVIDE ENABLING TOOLS

Case NL 2, **MEASURING IS KNOWING** clearly shows that if you provide household enabling tools, in this case a plug-in kWh meter, people will become active in energy conservation, buy better appliances and switch them off—reaching electricity savings of about 8%.

Wattch meter. Photo and Concept by Interactive Institute (Sweden)

Energy Aware Clock. Photo and Concept by Interactive Institute (Sweden)

GUIDANCE NOTE 2: THREE STEPS IN ANALYSING ENERGY-RELEVANT BEHAVIOUR

Assessing the energy-relevant behaviour and its influencing factors involves three steps.

1. Begin with a review of relevant articles and reports. Following this review, set-up focus groups and observational studies to explore the influencing factors on the energy-related behaviour of the target group. Build on the information gathered, conduct a survey to deepen an understanding of the factors influencing a specific behaviour. With this, determine the barriers and benefits, and the influence of external parties on the target group.

2. A focus group consists on average of six to eight target group members, who have agreed to discuss issues relevant for the behavioural change programme. If focus group members are volunteers, they are likely to be participating because they have a greater interest in the topic than others in the target group. Focus group participants should be representative of the wider target group. The focus group meeting gives the best results if it is guided by a clearly defined set of questions.

3. A survey with questionnaire provides quantitative data for statistical analysis. This clarifies the relative importance of factors for the wider target group.

RESEARCH IS NECESSARY

Case E 1, ENERGY EFFICIENCY DOMESTIC INDEX makes the importance of research clear. The utility prepared an intervention by distributing a questionnaire with thirty eight questions. About 60,000 households responded, and were given a personalised report and advice based on their answers. This programme has been implemented by the utility since 2004 and has resulted in energy savings of 1.5%, equivalent to a reduction in consumption of 3,590,000 kWh/year (Case E-1).

Energy Efficiency Domestic Index.
Source: UNIÓN FENOSA (Spain)

GUIDANCE NOTE 3: EXAMPLE FOCUS GROUP AGENDA

Topic 1: Is energy conservation important?

Why is it important? Why is it not important? What influences the individual to save energy? Possible reasons are: the environment, reducing costs, having a good feeling about it.

Topic 2: Is energy conservation difficult?

Why is it difficult? Why it is easy? What would make it easier?

Possible solutions are: knowledge about saving possibilities; knowledge about low-cost investments; difficulty or effort; time investment; financial investment; loss of comfort; feeling of satisfaction; appreciation/appraisal from the social context; cooperation by the social context; feedback.

Topic 3: Do you save energy?

Results of energy saving. What do people see as the current situation and as possibilities? Self-estimation of energy saving measures.

Saving behaviour: lighting; heating; washing; using appliances, making small investments.

Topic 4: Is help needed with energy saving activities? Help with what? Which party is best placed to deliver help? Which means can be used to help.

GUIDANCE NOTE 4: DETERMINE RELATIVE IMPORTANCE OF INFLUENCING FACTORS

Table 4: Results of a survey conducted to establish the relative importance of various influencing factors of energy-related behaviour for a group of Dutch households.

Categories	Influencing factors 9 (factors)	importance influencing factors *)
Motivating factors	Awareness	1
	Knowledge	0
	Social Influence	2
	Attitude	3
	Perceived capabilities	3
Enabling factors	Financial resources	0
	Technical resources	0
	Organizational resources	0
	New skills	1
Reinforcing factors	Feed back of peers	3
	Feedback of experts	0
	Feedback of authorities	1

*) the importance has a score of 0 to 3: 0=no importance, 3=very important
A method to assess the importance of the factors is described in Egmond et al. (2005).

There are four main types of instruments: (1) Regulatory instruments, (2) Economic, (3) Communicative instruments, and (4) Infrastructural provisions.

Step 3 – Design of the Intervention: Choosing the matching instruments

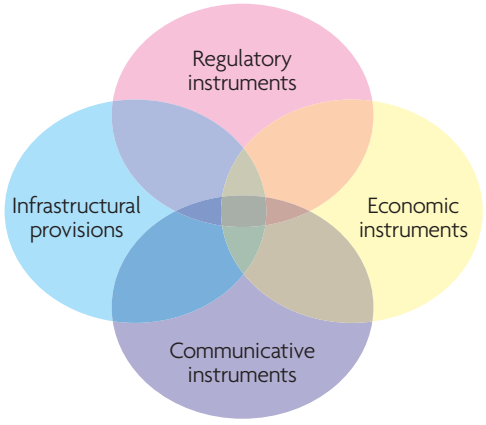
The principal task of this step is to choose the appropriate instruments whose characteristics match with the factors influencing the behaviour of the target group. The instrument planner (on www.energy-behave.net) provides us with a set of instruments that match the influencing factors we find in Step 2.

Types of instruments

There are four main types of instruments: (1) Regulatory instruments, (2) Economic, (3) Communicative instruments, and (4) Infrastructural provisions.

- **Regulatory instruments** are controls in the form of prohibitions or requirements, issued by political or administrative bodies that are mandatory in nature. The controls may be quantitative (emission conditions, limit values etc.) or technical. Regulations issued under the environmental framework code often form the basis of a country's environmental policy. Regulations governing the energy efficiency of buildings are another administrative policy measure. Covenants and agreements are a more voluntary form of regulatory instruments
- **Economic instruments** affect the costs and benefits of the choices available to parties concerned. They consist of taxes and fees, transferable emission allowances or certificates, deposits as securities and various forms of grants and subsidies.
- **Communicative instruments** are used for knowledge transfer, or to persuade, convince or encourage people to the desired behaviour. A sole reliance on communication is seldom effective. This instrument works better in combination with other, economic or regulatory instruments. In general we can say the more tailor-made the communication, the better the effect on influencing behaviour will be.
- **Infrastructural provisions** are changes in infrastructure and new technical solutions. Examples are the road-bumps to prevent speed driving, or thermostats and timer switches.

Figure 5.
Instruments that can be used to influence behaviour



After choosing the instruments, all the ingredients necessary to formulate an intervention strategy are available.

SELECT INSTRUMENTS THAT TARGET THE BEHAVIOUR THAT NEEDS CHANGING

UK-5 and NL9, The ECO-DRIVING CASES make it clear that different approaches differ in results: UK-5 was a short 2-week information campaign aimed at influencing attitude (and it did). NL-9 was aimed at applying Ecodriving by raising awareness, giving training to drivers, and integrating ecodriving in normal driving lessons.

After choosing the instruments, all the ingredients necessary to formulate an intervention strategy are available. In most situations, more than one instrument affects the influencing factors and, therefore, we often choose an instrument mix to formulate an intervention strategy made up of various instruments.

Ecodriving: On board consumption meter gives the driver concurrent consumption information.
Source: Motiva (Finland)

COMBINE INSTRUMENTS TO COMPOSE A TAILORED PACKAGE

Case UK-3- EST ENERGY EFFICIENCY ADVICE CENTRES demonstrate that setting up advice centres as a one-stop shop is a good way to provide different instruments to households. Its integrated approach and one-stop shop character make it clear and accessible for the target groups.

Regulatory instruments mainly affect social influence and attitude.

Various instruments have been analysed to determine their relative importance on influencing motivating, enabling and reinforcing factors of behaviour. Regulatory instruments mainly affect the *social influence* and *attitude*. Economic instruments have an effect on awareness, but also affect the enabling factor *financial resources*. They also affect *attitude* because economic instruments positively influence decisions about investments. Communicative instruments have the broadest impact. They affect *awareness*, *knowledge*, *attitude* and perceived capability, but have only a small effect on *organisational norm* and *subjective norm*. Furthermore, communicative instruments have an effect on a number of enabling factors: *technical and organisational resources*, and *new skills*. Infrastructural provisions, affect *awareness*, *attitude*, *perceived capability*, and *technical* and *organisation resources*.

Power Aware Cord. Concept by Interactive Institute & Photo by Carl Dahlstedt (Sweden)

The instrument table, in table 5, shows an estimate of the relative effects of the various instruments on the motivational, enabling and reinforcing factors affecting behaviour, in the case of energy-related behaviour of households. In most cases, factors determining behaviour are affected by more than one instrument and, therefore, successful programmes will typically combine different instruments. The figure may be of help to get an idea on how to 'compose' an intervention programme, given the objectives that were set for such a programme. In other words: it helps to arrange ideas in developing a behavioural and environmental change programme.

GUIDANCE NOTE 5

Table 5. Matrix of instruments versus determinants; Example of the outcome of the Instrument Planner

	Determinants (Influencing factors)												
	Motivating						Enabling				Reinforcing		
Instruments:	Importance of instruments	Awareness	Knowledge	Social Influence	Attitude	Perceived capabilities	Financial resources	Technical resources	Organisational resources	New skills	Feedback of peers	Feedback of experts	Feedback of authorities
Importance of influencing factors (see guidance note 4)		1	0	2	3	3	0	0	0	1	3	0	1
1.1 Laws and Regulations	7	1		2	3								1
1.2 Specific Permits	7	1		2	3								1
1.3 Covenants and agreements	10	1		2	3								1
2.1 Subsidy	5	1			3		0						1
2.2 Levy	5	1			3		0						1
2.3 Financing constructions	6				3	3			0			0	
3.1 Knowledge transfer	7	1	0		3	3	0	0					
3.2 Modelling	11			2	3	3					3		
3.3 Stimulating communication	8	1			3	3						0	1
3.4 Training	4		0			3			0	1		0	
3.5 Coaching	8		0	2	3	3			0			0	
3.6 Personal Advice	8		0		3	3			0	1		0	
3.7 Label	7	1		2	3							0	1
3.8 Demonstration	11	1	0		3	3		0		1	3	0	
3.9 Benchmarks	4	1									3	0	
3.10 Feedback	10	1		2	3	3		0			3	0	
4.1 Infrastructural provisions	8	1			3	3		0	0				1
4.2 Technical steering of behaviour	7	1			3	3		0	0				

The instrument planner is a tool to help identify instruments for the most important influencing factors. 12 questions lead to an assessment of the weight of the influencing factors: the most important factors get the highest ranking. Then the instrument planner provides a list of most appropriate instruments. This tool is available on the BEHAVE website.

Flower Lamp. Interactive Institute in collaboration with Front (Sweden)

Step 4 – Implementation of the intervention.

To make an overall *action plan* that outlines the scope and sequence of the whole programme, which includes all activities of the programme and materials that must be produced, such as organisation, partners, budget, resources, etc.

In the preceding steps, all components of a programme have been determined. Before implementing it, however, the programme has to be detailed in a specific action plan.

The format of this action plan will vary between programmes, but it should include at least the programme scope and sequence: a description of each target group and the programme interface. Prepare a list of programme materials and staff required for that interaction and a programme budget for materials, production and implementation. In formulating the action plan, the following questions could be useful:

- Who needs to be involved?
- What is to be done?
- Where will the plan be implemented?
- When will each activity take place?
- How will activities be conducted?
- How much will it cost?
- How will the programme be evaluated?

CONDUCT PILOT INTERVENTIONS TO TEST THE APPROACH

Case E-9, COLLECTION OF USED COOKING OIL FROM HOUSEHOLDS shows, intervention pilots are sometimes needed during the development. In this case, information was needed to determine the best way to collect used cooking oil in order to produce biodiesel.

An effective tool to track achievement of the programme's goals is to establish performance indicators, with target levels, which can be monitored during programme implementation.

Step 5 – Monitoring & evaluation of process and change in determinants

Checks must be made to see if the programme is on track and to obtain feedback. These checks must include the gathering of information on the performance of the programme through monitoring actions.

GUIDANCE NOTE 6: MONITORING CONSISTS OF TWO PARTS

1. Establishing performance indicators

An effective tool to track achievement of the programme's goals is to establish performance indicators, with target levels, which can be monitored during programme implementation. These indicators will also aid in the evaluation. These performance indicators should be related to the goal of the programme. First analyse the current situation - the base case - and then compare it to a later situation (after the intervention) to monitor or evaluate progress. Note that monitoring performance indicators may be costly, so it has to be planned, including a budget and resources.

2. Gathering the actual data

DEFINE THE INDICATORS in terms of data to be collected, such as the number of people reached with print and electronic materials, the number of attendants at training events, the number of people who saw a TV campaign, the number of target group members showing a specific behaviour.

MONITOR ACTIVITIES do activities take place as planned and do they meet the level set at the start of the programme? If not, determine why not, and adjust the plan if necessary. In order to maintain the planned progress of the programme, adjustments may need to be made during the implementation of the behavioural change programme.

Power Monster. Photo and Concept by Interactive Institute (Sweden). Left.

epulse. Photo and Concept by Interactive Institute (Sweden). Right.

Step 6 – Evaluation of the extent to which intermediate and end-goals were reached.

Evaluation of both "process" and "impact", determine if the programme was successful or not in meeting its goals and *why*.

GUIDANCE NOTE 7: EVALUATING THE IMPACT OF A PROGRAMME

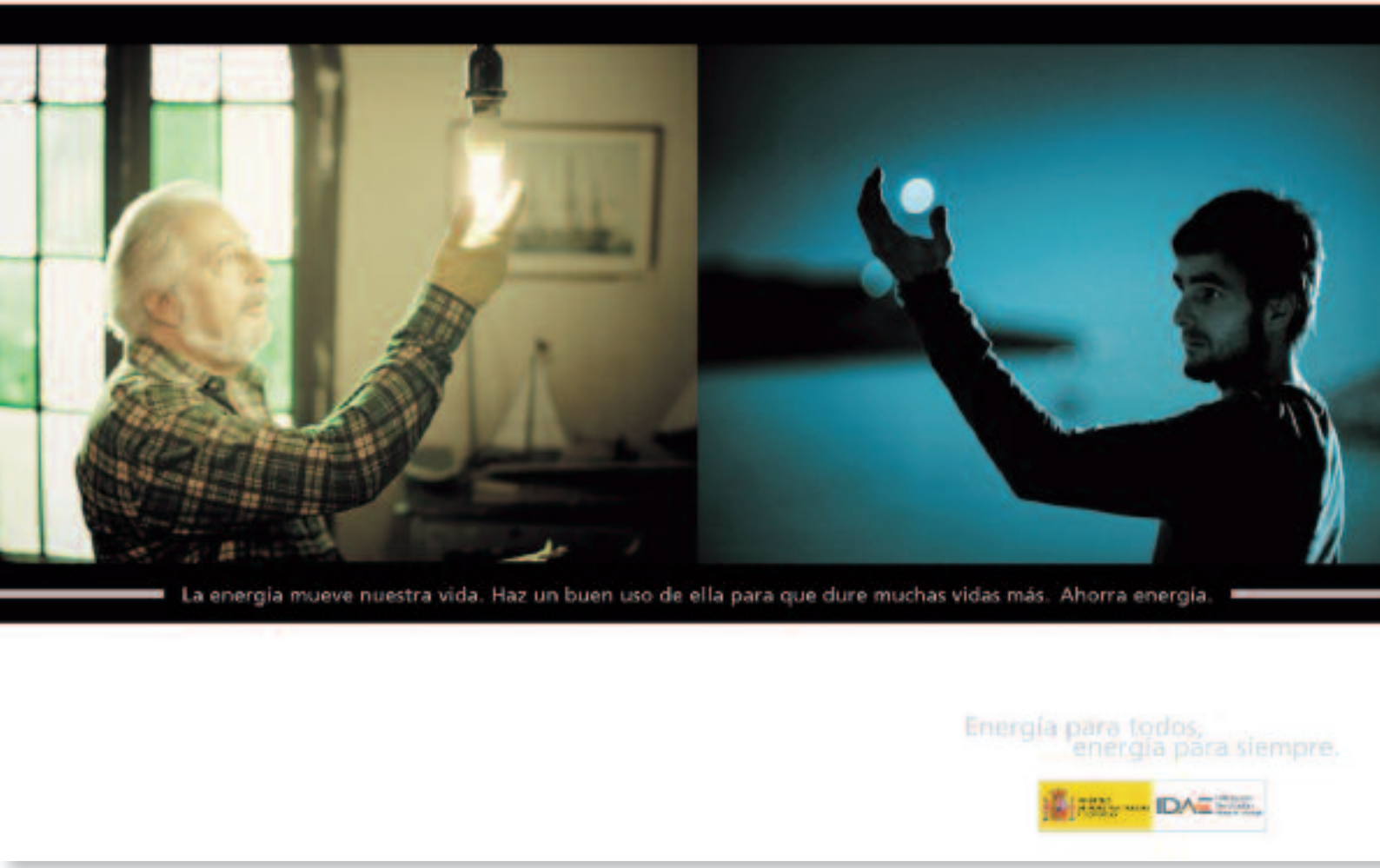
Evaluation of impact describes and compares the outcomes either before or after the programme or as compared to a control group that did not take part in the programme. If a control group is not available, then define, measure and record a base case before the intervention starts. Possible outcomes of interest include energy conservation results, behavioural changes, contextual changes, changes in the factors that influence behaviour, increased knowledge level, and a more positive attitude. It is not necessary to include all intended outcomes in an evaluation. Indicators will be based on the model for the intervention.

GUIDANCE NOTE 8: EVALUATING THE IMPLEMENTATION PROCESS OF A PROGRAMME

Process evaluation targets several aspects of programme design and implementation. Systematically evaluate the programme to improve its design, its delivery, and the usefulness of the services delivered to the target group. Evaluate the implementation to ensure that the delivered programme has followed the original design, and that the programme is delivered to the target group for which it was intended. In other words, process evaluation describes the organisational and implementation factors related to programme.

MEASURING PROCESS AND IMPACTS

In case E-5 - ENERGY FOR ALL, ENERGY FOREVER, only a process evaluation was carried out using a single process performance indicator: the share of the target group reached with a TV add. The result was that 70% found the message in the TV advertising campaign "Energy for all, energy forever" interesting and clear, but the impact or effect was not determined. The monitor should also have included an impact performance indicator, e.g., the share of the target group changing a specific behaviour as a result of seeing the advertisements, to see what the impact had been.



Energy for all, Energy forever campaign.
Source: IDAE (Spain)

4 Summary of the Case Studies

The BEHAVE project collected 41 cases, each representing an implemented behavioural change project or programme in Europe.

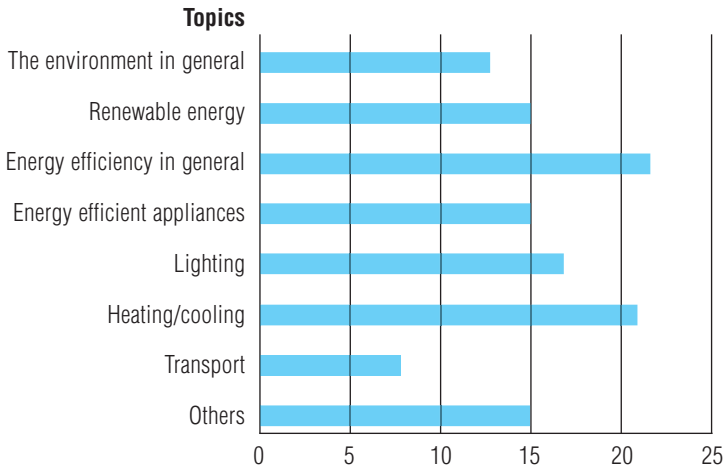
4.1 Quantitative Analysis

The BEHAVE project collected 41 cases, each representing an implemented behavioural change project or programme in Europe. Characteristics of the cases are:

- Programmes that aim to have an effect on three factors of consumers' habitual and investment behaviour: motivational, facilitating and reinforcing factors.
- Governmental programmes, usually managed by national or regional energy agencies or utilities.
- The need for available data on effect and impact of these programmes and projects.

The cases were analysed for information about their activities in five stages of programme design: context (pre-planning), planning, implementation, monitoring, and evaluation. A detailed report on the analysis can be found on www.energy-behave.net.

Figure 6.
Topics in Cases



The selected programmes dealt with fairly generic topics, such as:

- Climate change
- Energy efficiency (general)
- Energy efficient buildings
- Educational projects
- Household energy use
- Transport
- Renewable Energy
- Labelling
- Energy Advice Centres

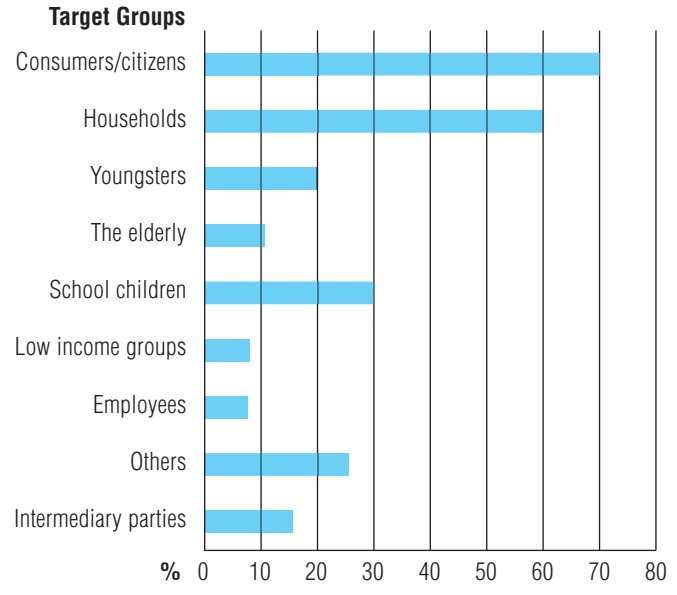
A quarter of the programmes addressed only one of these topics, and half of the programmes addressed three or more topics. In some cases, e.g. Energy Advice Centres, addressing several topics can be justified, but experience shows that programmes with several topics are less effective in changing behaviour.

The programmes had an average duration of three years. More than half of them were part of a larger cluster of activities, implying that the programmes were built on a pre-existing infrastructure, which may have helped in achieving lasting impacts on energy-related behaviour.

Most energy behaviour change programmes are implemented by national or local energy efficiency agencies – as is to be expected for government programmes. In some cases, programmes were initiated together with several intermediary organisations in a public-private cooperation, or, depending on the institutional setting and local circumstances, by other organisations like community groups, municipalities, consumer associations, NGOs, and energy suppliers.

The cases addressed a wide range of target groups: 68% of the cases had the general public as a target group and 59% of the cases addressed households. More specific target groups were school children (mentioned in 29% of the cases), youngsters (20%), intermediary parties such as NGOs, social workers, teachers (15%), the elderly (10%), low-income groups (7%) and employees (7%). Sometimes other target groups, such as the media, were included. Usually, when a more specific target group was selected, the programme addressed both the general public and the selected target group. Only about a third of the change programmes addressed one single target group and, even then, the target group often comprised a number of separate segments.

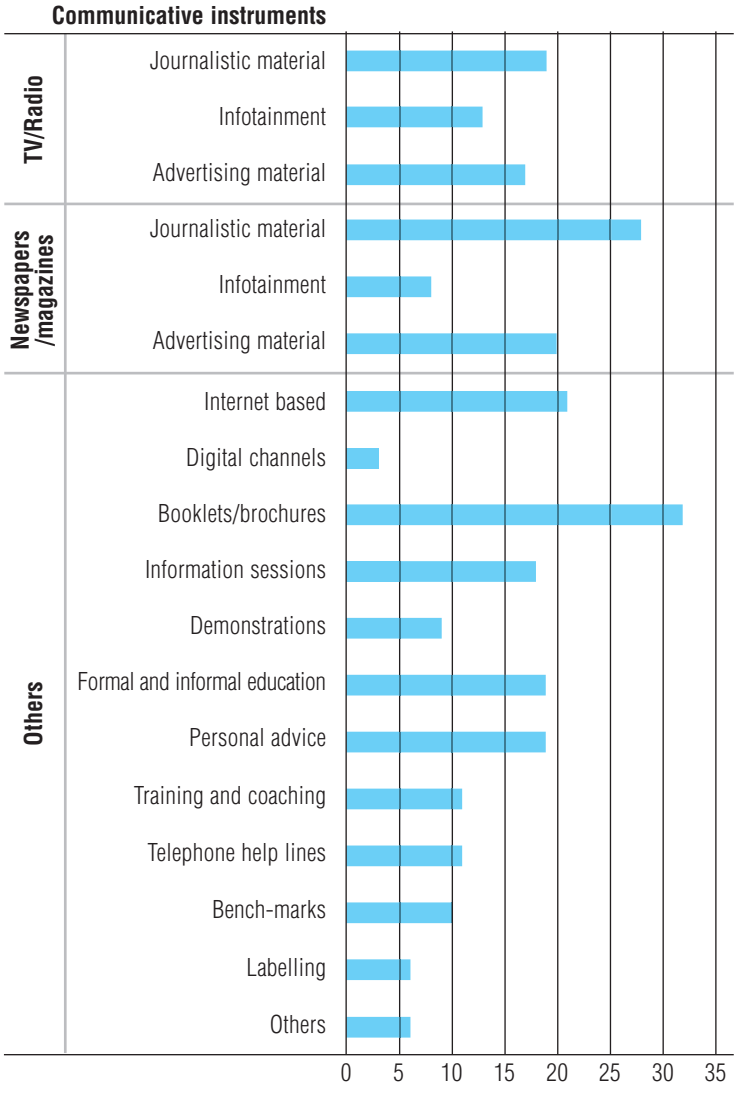
Figure 7.
Target Groups addressed



In all the programmes, a mix of communicative instruments is used. These include press materials, infotainment, advertising, educational materials, and personal advice. The use of digital communication channels was still relatively low.

Most of the cases addressed more than one type of behaviour, seemingly without distinguishing their differences.

Figure 8.
Communicative Instruments used



4.2 Case Studies

Index of Case Studies per country, promoter and project

COUNTRY	PROMOTER	PROJECTS/PROGRAMMES	
A AUSTRIA	AEA – Austrian Energy Agency	A2	Climate Active "Climate Herald"
	Energie AG	A3	Fair Energy (Energy Check)
	LGWA- Leistungsgemeinschaft Wärmepumpe Austria	A4	Climate Active "Heat Pump"
	AEE – INTEC - Institut für Nachhaltige Technologien	A6	Climate Active "Solar Heat"
BG BULGARIA	Ministry of Regional Development and Public Works	BG5	National Programme for Residential Buildings Renovation
	Ministry of Economy and Energy	BG10	National Energy Efficiency Law
D GERMANY	DENA – Deutsche Energie Agentur GmbH	D1	Campaign Initiative EnergieEffizienz
E SPAIN	UNIÓN FENOSA	E1	Energy Efficiency Domestic Index
	IDAE – Instituto para la Diversificación y Ahorro de la Energía	E3	Disney Channel "Save Energy in Good Company"
		E5	Energy for All, Energy Forever
		E8	Training Plan for Domestic Appliance Sales Personnel on Energy Labelling
	Madrid Regional Government	E7	Plan Renove 2006
	EREN – Ente Regional de la Energía de Castilla y León	E9	Collection of Used Cooking Oil from Households – Local and Innovative Biodiesel
	EMVS – Empresa Municipal de la Vivienda y Suelo	E10	Mediterranean Veranda ways/Sunrise Building
F FRANCE	ADEME – Agence de l'Environnement et de la Maîtrise de l'Energie	F1	Climact (CO_2 Impact Calculator)
		F6	Etiquettes énergie
		F8	Espaces Info Energie
	ADEME & Nicolas Hulot Foundation	F5	Défi Pour la Terre
FI FINLAND	Motiva Oy	FI1	Energy Awareness Week
		FI2	National Energy Theme Week for Primary School Second Form Pupils
		FI3	The Finnish Climate Change Communications Programme
		FI4	Energy Efficient House
		FI5	Safe and Economic Driving
	VVO Housing Company	FI6	Yard Talk Campaign
G GREECE	CRES – Centre for Renewable Energy Sources	G1	Open Doors
NL NETHERLANDS	Milieu Centraal	NL2	Measuring is Knowing
	Obragas	NL3	Electronic Feedback and Goal Setting
	SenterNovem – Dutch Agency for Sustainability and Innovation	NL9	Eco-driving
		NL11	Energy Box
	SenterNovem & KRO Broadcast Company	NL12	Energy Survival
N NORWAY	Enova SF	N1	Rainmakers
	Ministry of Petroleum and Energy & Enova SF	N3	Electricity Savings in Households
S SWEDEN	SNRA – Swedish National Road Administration	S1	Don't Drink and Drive
	STEM – Swedish Energy Agency	S5	Heating in Villa
		S7	Wood Pellet Heating - Future Heating
	NMN – The Nordic Council of Ministers – Eco labelling board	S4	"The Swan" Label
	Swedish Environmental Protection Agency	S6	The Swedish Climate Campaign
UK UNITED KINGDOM	EST – Energy Saving Trust	UK1	Advertising Campaign 2006/07
		UK3	Energy Efficiency Advice Centre EEAC
		UK5	Scottish Eco-Driving
		UK9	Sustainable Energy Network

A2 CLIMATE ACTIVE *"CLIMATE HERALD"* (2005/07)

PROMOTER
AEA - Austrian Energy Agency

Goal
The aim of the project was to motivate people to be aware of energy efficiency in daily life and to invest in climate friendly technologies (insulation, new heating systems,..)

Target group
Consumers and households

http://www.klimaaktiv.at

Roland Hierzinger,
roland.hierzinger@
energyagency.at

CONTEXT

The *"Climate Herald Campaign"* was launched in 2005 as part of the Austrian climate protection programme *"klima:aktiv"*, managed by the Austrian Energy Agency. The *"klima:aktiv"* Programme consists of more than twenty sub-programmes. *"Klima:aktiv"* addresses mainly intermediaries, so that the *"Climate Herald Campaign"* is only one of two dedicated to end users. Because the chimney sweeps acted as climate heralds, the target group of the campaign was well defined: detached and semidetached houses. Chimney sweeps are familiar with all questions concerning heating, but they are not general experts on energy efficiency in houses. Hence an agreement with the regional energy agencies had to be reached in order to offer the home owners the opportunity to acquire technical energy conservation advice. The chimney sweepers explored the home owners' interest in energy conservation and created the interest in technical energy conservation advice.

ABSTRACT

The primary objective of the campaign was to motivate people to modernise their homes; in Austria more than 700,000 privately owned homes built between 1945 and 1980 can be effectively renovated. On average they have a heat requirement of 200 kWh/m^{2}a. Properly modernised houses have a heat requirement of 50 kWh/m^{2}a or even less. The modernisation potential should be exploited by implementing a comprehensive modernisation (skilled and sufficient insulation of the cladding and the ceiling, new energy efficient windows, new energy efficient and environmentally sound heating system). In cooperation with the regional energy agencies, the Austrian Energy Agency produced an information brochure for every federal state. These brochures were distributed to the households by the chimney sweeps. They contained information about energy saving behaviour which everyone can implement quickly and easily. Additionally, a questionnaire to request technical energy conservation and information material was included. And as a subsidiary communication channel, a hotline for the households was installed.

CONCLUSIONS

The rationale behind the programme was the consideration that no professional guild has such good access to the home owners as the chimney sweeps; they are required by law to clean and check the heating systems at least once a year. The crucial weak point was that it was not possible to bring all professional representatives of the chimney sweeps at the federal and regional level in line with the aim of the project. The Austrian Energy Agency had to present the project at regional events of the chimney sweeps. Additionally, a training film explained the rationale of the campaign and showed how to perform optimally during the contact with the home owner.

- Well-defined course of the project.
- Multi-channel approach to address the target group (chimney sweeps, hotline, option of mailing the request for energy conservation advice to the project office).

- The professional representatives of the chimney sweeps were not able to motivate the individual chimney sweeps in all regions; they perceived the campaign more or less only as a good public relation activity for their profession.
- No concrete incentives for the individual chimney sweeps to participate; very often they perceived the campaign as a one-man effort of their professional representative to get publicity.
- It was not possible to determine the number of energy conservation recommendations originated by this campaign.

RESULTS

Roughly 20% of the Austrian chimney sweeps participated in the campaign. Notable were, the enormous regional differences. In regions with strong, motivated professional representatives with good reputations, the campaign was successful. In other regions the results were more or less disappointing.

A2

EVALUATION

The evaluation was carried out internally by the project management and by the Ministry. The objectives of the evaluation were
- to find out the improvement potential of the course of the project.
- to get a clear view of the fact whether the project met the needs of the target group.

The following topics were monitored.
- number of distributed leaflets.
- number of households which applied for technical energy conservation advice.
- number of households which took concrete energy conservation measures as a result of this campaign.
- the kind of measures taken by those who decided to take action as a result of the energy conservation advice.

A3 FAIR ENERGY (ENERGY CHECK) (SINCE 2005)

PROMOTER

Energie AG - Electricity utility of Upper Austria

Goal
To motivate households to invest in energy efficiency measures and to make an energy check.

Target group
Consumers and households

http://konzern.energieag.at

Susanne Eisl,
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CONTEXT

The main motivation when initiating this campaign was to increase costumer satisfaction in a deregulated electricity market.

ABSTRACT

Since 2005, the regional electricity utility of Upper Austria has offered its costumers services to motivate them to take energy efficiency measures. All initiatives take place under the umbrella programme of *"Fair Energy"*. The core service is an energy check. This check provides information about how the annual energy consumption of the household is compared to the average for this household category in Upper Austria. Additionally, based on the costumer's specifications, he receives a proposal on how to save energy in his house or apartment. This check is combined with several services which help the costumer to save energy, vouchers for replacing old appliances, for energy saving light bulbs, for an energy consultation, free admission to the energy conservation fair, an energy conservation booklet and the loan of an energy consumption meter.

CONCLUSIONS

The big advantage of an electricity utility is that it has excellent access to all the costumers. Because all costumers got the direct mail, almost 100% of the target group was reached. An additional advantage was that all necessary resources were available in-house or from the market partners of the utility.

- All address data were available to contact the target group.
- The utility has all necessary know-how and resources available.
- The funding of the programme was no problem.
- The management structure is simpler than in complex consortia.

- The energy efficiency measures that the costumers implemented after receiving the advice were not monitored.

RESULTS

Because the first year of the Fair Energy programme was very successful (3,000 energy checks), the utility decided to implement annual renewals with broader services.

EVALUATION

No data are available about whether the costumers were satisfied with the on-site energy advice.

A4 CLIMATE ACTIVE *"HEAT PUMP"* 2006/10

PROMOTER

The programme is managed by a consortium consisting of the Austrian Heat Pump Association (LGWA), two regional energy agencies, one research institute (Arsenal Research) and the Austrian Society for Environment and Technology.

Goal

To promote the use of heat pumps with optimum performance figures and the increased use of HCF-free heat pumps (an increased use of heat pumps in the new single-family houses sector is the major focus of the programme, however it will also address multi-family houses, commercial buildings and renovation projects). The target is that by the year 2010, 10,000 heat pumps for heating (2005: 6,100) should be sold in Austria. This means that 50% of all newly built single-family houses should have a heat pump installed.

Target group

Consumers and intermediary parties (planners, installers)

http://www.lgwa.at

Christine Widmann, christine.widmann@lgwa.at; c.fink@aee.at

CONTEXT

In 2005 there was a remarkable increase in heat pump sales. There was a market growth of 28%. In total, 9,883 units of heat pumps were sold. They were used as follows:

- 61.7% for space heating
- 32.2% for hot water production
- 5.1 % for heat recovery

Most popular, with a market share of 74%, are ground-coupled heat pumps. The thermal capacity of all installed heat pumps is 80 MW_{th} which corresponds to an oil equivalent of 237,459 tonnes.

ABSTRACT

After reaching a high in the mid 80s, there was a severe market shift in the 90s. The reason was that the experiences with the installed heat pumps were not satisfying for the end users. The programme addresses both end users and intermediary agents. The main objectives of the programme are:

- Intensified PR and lobbying.
- Education and advanced training for planners and installers.
- A feasibility study for heat pumps using no HFC.

Quality assurance by means of monitoring heat pumps over a heating season and the definition of quality standards

CONCLUSIONS

The programme has been successful. The reasons for this success are

- a broad marketing mix targeting intermediaries as well as end users.
- good general market conditions for heat pumps.
- Close cooperation between the programme management and the heat pump industry.
- Strong economic interest of the electricity utilities to support the programme; the programme has a strong external support.
- Good general framework due to the increasing energy prices.

- The Austrian heat pump industry is divided into two groups; this caused a disharmony

RESULTS

The programme is evaluated annually on the basis of the annual work programme. The target groups were reached as follows (evaluation after 1 year programme duration)

- Intermediaries:
  - Training courses for installers (200 installers were trained, 65 of them earned an official certification as "certified heat pump installers").
  - 3 training courses for energy advisers.
- End users
  - 4 different types of leaflets.
  - 8,000 folders were distributed at fairs.

PRELIMINARY RESEARCH

Conducted in advance; a thorough market analysis was available because the Austrian heat pump market has been monitored since 1975.

EVALUATION

The evaluation has been undertaken by the programme management itself and the climate active general management on behalf of the Ministry. The indications for the success/failure of the programme are the reliable heat pump market figures and the performance indicators procured by the programme management.
Regarding the market development, the two heat pump associations collect the data. The heat pump companies submit their sales figures, which represent nearly 100% of the Austrian market.

A6 CLIMATE ACTIVE *"SOLAR HEAT"* 2004/08

PROMOTER

The programme is managed by a consortium consisting of **AEE INTEC, Austria Solar and Arsenal Research**

Goal

The goal of the programme was to reverse the stagnation in the Austrian solar heating market. The aim of the programme was to reach 200,000 m^2 (161 MW_{th}) in 2008.

Target group

Households, tourism industry and intermediary parties (planners, installers)

www.solarwaerme.at

Friedrich Brandstetter,
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CONTEXT

In Austria fifteen per cent of all single-family homes have a solar thermal collector. Unfortunately, the situation in apartment buildings and the tourism industry is still quite different; the use of solar energy in these areas is significantly lower. But there was also significant stagnation in the single-family housing sector. Since 2003, the annually installed area of solar collectors has decreased. In 2003 150,000 m^2 (105 MW_{th}) were installed.

ABSTRACT

The programme aimed at motivating and facilitating factors by
- Providing training for planners and installers to guarantee the best quality for the end users.
- Initiating a solar hotline and website where people can get good quality technical information.
- Providing information and motivation by means of brochures and information folders.
- Being present at exhibitions and trade fairs.

CONCLUSIONS

The programme has been an outstanding success. The reasons for this are
- a clear, practicable market segmentation (single-family houses, apartment buildings, tourism industry).
- good marketing strategies for these segments.
- a sufficient budget.
- a well established technical solar heating advice infrastructure.
- bringing the solar panel industry in line with the goals and the approach of the programme.

- Close cooperation between the programme management and the solar panel industry.
- The solar panel industry saw a clear economic benefit from participation in the programme.
- Long tradition in Austria in solar heating marketing.
- No problems with the federal structure in Austria, which is very often a severe obstacle.
- Good general framework due to the increasing energy prices.

- It was not possible to set up a programme scheme which identifies unequivocally the market effects of the programme.

RESULTS

The target groups were reached as follows (evaluation after 2.5 years programme duration)
- Intermediary agents:
  - Training courses (57 training courses with about 950 participants)
  - Own professional centre on the website for planners, installers and energy advisers
- End users
  - Events (130 with about 12,400 participants)
  - Brochures and information folders (130,000)
  - Stands at fairs (16)
  - Website (470,000 visits)
  - Solar hotline (5,000 requests)
  - 1,100 news items

The quantitative market goal was reached. In 2005 the goal of 200,000 m^2 (161 MW_{th}) for the year 2008 was exceeded with 230,000 m^2.

PRELIMINARY RESEARCH

The programme addresses both end users and intermediaries. A thorough market analysis was conducted in advance, which provided a clear picture of the relevant segments. Accordingly, the programme is very well targeted.

A6

EVALUATION

The evaluation has been undertaken by the programme management itself and the climate active general management on behalf of the Ministry. The indications for the success/failure of the programme are the reliable market figures and the performance indicators procured by the programme management. The solar market figures stem from the annual solar market review. The figures on the distributed number of brochures and folders, the number of website hits, the number of planners and installers participating in the training courses et cetera came directly from the programme management.

BG5 NATIONAL PROGRAMME FOR RESIDENTIAL BUILDINGS RENOVATION IN THE REPUBLIC OF BULGARIA (NPRBRRB)

PROMOTER

Ministry of Regional Development and Public Works

Goal
Overall and energy renovation of existing multifamily residential buildings, adding renewable energy components.

Target group
Low income individual citizens and household members and intermediary organisations.

www.mrrb.government.bg

Ministry of Regional Development and Public Works

press@mrrb.government.bg

CONTEXT

120 multifamily residential complexes throughout the country with nearly 800,000 dwellings in 19,800 buildings are subject to urgent renovation (urban, overall and energy renovation)

ABSTRACT

The NPRBRRB was adopted in January 05 and for the period 2006-2020 foresees renovating 684,683 dwellings. The programme priority is panel residential buildings.
The State will support the panel dwelling owners by means of a direct subsidy of 20% of the renovation total cost. The Municipalities have a very active role in the buildings' renovation process as they create a Municipal Association (MA), as a legal person, to support the implementation of investment projects for the renovation of residential buildings. In this process many key actors are involved: the municipal association, legal representatives of building blocks and condominiums, energy service companies and financing entities. The Municipal Associations elaborate project proposals to be implemented in the Municipality territory, assigns the projects by means of competition, finances it implementation and distributes the state subsidy.
The dwelling owners establish and register a legal person to represent them at the Municipal Association, they are financially responsible for the renovation and cooperate with municipalities in the management and maintenance of the newly renovated building and adjacent green spaces. The amount invested by the owners will be gradually recovered as a result of the reduction in their energy consumption, from 35% to 40%, and of the real state tax exemption for a certain period of time.
The programme foresees proposals for legislative amendments in connection with the legal, institutional and financial credit system improvement.

BG10 ENERGY EFFICIENCY LAW (EEL)

PROMOTER
Ministry of Economy and Energy

Goal
The objective of the law is to encourage energy efficiency through a system of measures and activities on national, industry, regional and municipal levels as a major factor for enhancing the competitiveness of the economy, electric power supplies security and the protection of the environment.

Target group
Building and domestic, industry and transport sectors, including the whole value chain and citizens.

www.mi.government.bg/energy

PUBLIC@mee.government.bg

CONTEXT

This law shall regulate the public relations with regard to the implementation of the government policy for energy efficiency raising and providing energy efficient services. It addresses environment, energy efficiency, renewable energy and transport sectors.

ABSTRACT

To implement the Energy Efficiency Law, several National Programmes have been adopted:

- National long term Energy Efficiency Programme 2005-2015 (NLTEEP), adopted in April 05 and is based on the Energy Strategy of Bulgaria, the existing energy legislative framework, regional, sector and EU accession policies, the national taxation and environmental policies and prospective. The programme's main target is to reduce the energy intensity of the national GDP in all sectors of the economy. To put this programme into practice, the
- National short term Energy Efficiency Programme 2005-2007 (NSTEEP) has also been adopted with the objective to implement the long term programme thorough the support of specific projects in industry, transport, agriculture, as well as in household, service and tertiary sectors. This short term programme includes 552 projects, which needs an investment of M€ 150 for their implementation.
- National Strategy for Financing the Building Insulation for Energy Efficiency and Action Plan Implementation (NSFBIEEI), propose various financial tools for the financing of the implementation of building energy efficiency measures.
- National Target Programme for Energy Efficiency in Buildings (NTPEEB), includes state-owned and municipal buildings, mainly schools and hospitals.
- National Programme for Energy Efficiency Improvement in the Transport sector (NPEEITS). This Programme includes energy efficiency measures for urban public transport, railways, maritime coastal transport and transport infrastructure.
- National Long Term Programme on Renewable Energy 2005-2015 (NLTPRES), adopted in June 07. With the aim to reach 11% of the electric energy gross inland consumption, to be generated by renewable energy sources in 2010.

D1 CAMPAIGN *INITIATIVE ENERGIEEFFIZIENZ* - ENERGY EFFICIENCY IN PRIVATE HOUSEHOLDS

PROMOTER
DENA - Deutsche Energie-Agentur GmbH

Goal
The goal of the campaign *Initiative EnergieEffizienz* - Energy Efficiency in private households - is to reduce energy consumption in private households by providing consumers with information about intelligent purchasing decisions and energy efficient usage of household equipment which helps to avoid unnecessary energy consumption and encourages them to act in an energy-efficient fashion.

Target group
Consumers / citizens, youngsters, elderly, low income, multipliers.

www.stromeffizienz.de, www.dena.de

Christina Camier, camier@dena.de

CONTEXT

The necessity of mitigating climate change and our limited energy resources have brought forth a new challenge: we must make intelligent decisions today which make it possible to use energy in the future. Increasing the efficient use of energy plays a critical role in enabling consumers to enjoy the same benefits while using less energy and thus spending less money. About twenty five percent of the electricity in Germany is consumed by private households, therefore consumers play a key role in reducing energy consumption. The *Initiative EnergieEffizienz* is supported by *DENA* and the energy companies EnBW, EON, RWE and Vattenfall Europe, and is sponsored by the Federal Ministry for Economics and Technology (BMWi).

ABSTRACT

To show how individuals can use electricity efficiently in the home. It provides information on how energy and costs can be saved in electrical applications throughout the consumer sectors in the long term. It encourages intelligent purchasing and investment decisions and better habits where the use of electricity is concerned.
The wide range of information and advisory services provided by the *Initiative EnergieEffizienz* include top-quality information for private individuals, continuous communication by press releases and high-profile activities in the public domain such as exhibitions or promotion weeks at the point of sale. The website www.stromeffizienz.de has been established as a central information platform. The *Initiative EnergieEffizienz* also provides information for school kids and competitions for young people.

CONCLUSIONS

The Campaign's impact: successful in building up a network of retailers and consumer advice centres co-operating with the *Initiative EnergieEffizienz* (around 8,300 retail and electrical sellers and more than 1,000 consumer advice, environmental and energy counselling centres); high press coverage (since October 2002 around 8,850 articles have been published in newspapers and magazines, TV and radio). More than 8 million distributed brochures since 2002. Change in public awareness and attitudes between 2002 and 2007 (according to a survey carried out by Forsa).

- Up to date communication approach.
- Showing the advantages of energy efficiency without moralising: humorous and modern language, bright colours, life-style pictures.
- Continuous evaluation.
- Using a variety of communication channels: consumers, campaign, electric/electronic and other retail, consumer advice centres, press and media, internet and free consumer hotline.
- Promotion activities and special events.
- Special focus on young people.

- It is a challenge to organise tailored communication towards a heterogeneous target audience of 39 million households.

RESULTS

The campaign *Initiative EnergieEffizienz* has been providing information on the efficient use of electricity in the private household and encouraging individuals to take corresponding action since 2002. The communication is focused on the personal advantage of the consumer: saving costs. This focus addresses the target group successfully. The programme was considered a success by the financier, the implementing agency and the target group.

EVALUATION

The research institute "*Forsa*" carries out regular evaluation of the programme (until 2004 twice a year, since 2005 once a year) by national representative surveys.

E1 ENERGY EFFICIENCY DOMESTIC INDEX

PROMOTER

UNIÓN FENOSA - Utility company

Goal
Promoting responsible use of energy by providing consumers with information about their consumption in the household and offering solutions to cut it down.

Target group
Consumers (UNIÓN FENOSA's clients: 2,653,000 people) and households, the universe being all households in Spain (nearly 14,200,000).

www.unionfenosa.es

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CONTEXT

In November 2003, the Spanish Government adopted the Strategy for Energy Saving and Efficiency 2004-2012. This Strategy estimated savings of 12,853 million euros for the aforementioned period. In order to reach this goal, its proposals include taking action in the building and residential sector in areas such as rehabilitation of the thermal envelope, heating systems, lighting, domestic appliances, etc.

The residential sector represents 17% of final energy consumption in Spain. Electricity demand in the sector has grown by 7% since 1995, reaching 33% in 2002, with heating and sanitary hot water accounting for 75% of total consumption. Spain and Portugal are the only countries in the European Union whose energy intensity is on an upward trend, following the typical curve experienced by developing countries.

ABSTRACT

Patterns of energy use in the domestic sector are not well known in Spain and this situation makes it very difficult to incorporate efficient actions aimed at improving energy efficiency in households. The utility Unión FENOSA (UF) has a new tool for determining the energy efficiency situation of Spanish households which, at the same time, could help to disseminate knowledge on energy efficiency in the domestic sector and raise awareness while promoting responsible energy use. UF finances and implements the programme (65,000 euros/year). It was launched in June 2004 and is still ongoing.

The Energy Efficiency Domestic Index (EEDI) is constructed using the data obtained from telephone interviews focusing on two main areas: the user's knowledge of energy efficiency and the features of the household appliances. Algorithms are applied to obtain a score (1 to 10) of the interviewee's domestic energy use and habits and to draw a picture of the household saving potential (electric and thermal). An advisory report is drafted for each case and sent back to all participants together with the Guide on "How best to use energy".

RESULTS

Three EEDI national studies have been carried out in Spain since 2004 on a representative sample of all Spanish households (4,100 households in 2004, 4,100 in 2005 and 3,800 in 2007). The questionnaire was designed in collaboration with consumer organisations.
An outreach campaign aimed at UF customers has been implemented and other marketing campaigns have also been put into place. "The efficient UF house" is a marketing campaign based on a specific event (travelling house that showed efficient domestic technologies) that has travelled to various Spanish cities: 51,595 reports and "How best to use energy" guides have been delivered as a result. UF has made the questionnaire interactive and available through its website, so anybody can enter the information required and obtain a personalised EEDI: over 22,000 people have used this tool since 2004, and this webpage registered 10,000 visits in 2007.
Participation in teaching activities was also promoted. As a result, UF professionals took part in over thirty courses in collaboration with different universities in the first half of 2005.

- Prior knowledge of habits, energy sources and widespread technologies in Spain.
- Daily monitoring of the campaign launch phase to detect flaws quickly, clarify frequently asked questions (FAQs) and conduct interviewers' training.

- The interviewers' training could benefit from a better allocation of time and resources.
- Poor quality of the database: some reports never reached their destination.

EVALUATION

In 2004 and 2005 some of the participants (500 people) in the study were gathered in a *repetition group* that was asked to answer the questionnaire for a second time in order to assess any changes in the EEDI. The results showed an overall improvement of 4%, which translates into a reduction of 1.25% in energy consumption and a saving of 48kg of equivalent CO_2 per household (2,860 tonnes /year). Therefore, the EEDI project has a positive measurable impact on energy related behaviour.

E3 EXPERIMENTAL MEDIA CAMPAIGN *"SAVE ENERGY IN GOOD COMPANY"* IDAE-DISNEY CHANNEL

PROMOTER

IDAE - Institute for Energy Diversification and Conservation

Goal
Promoting energy saving and energy awareness behaviour patterns in children.

Target group
Schoolchildren in Spain.

www.idae.es

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CONTEXT

In November 2003, the Spanish Government adopted the Strategy for Energy Saving and Efficiency 2004-2012. This Strategy estimated 12,853 million euro savings for the fore mentioned period. In order to reach this goal, it proposes, among others, communication activities aimed at raising public awareness about the responsible use of energy in different environments (home, electrical appliances, public and private transport, etc).
Children are current and, especially, future energy consumers, besides being very effective prescribers to their families. Disney Channel is the leading children-family specialised television channel in Spain, with a share of as much as 24% of children aged 4-12.

ABSTRACT

"Save energy in good company" ("*Ahorra energía en buena compañía*") is a media campaign designed by IDAE in collaboration with Disney Channel, which broadcasted it from January to December 2006. It had a budget of 72,000, provided by the national Strategy for Energy Saving and Efficiency and it was managed directly by IDAE. The campaign was conceived as an experimental project, and it focused on the need to save energy while providing children with information about actions they could put into practice in their everyday life.

RESULTS

Under the title "*Energy saving in good company*" four 1-minute spots were produced. These spots featured well-known Disney characters and dealt with the following topics:

- Not leaving domestic appliances switched on.
- The importance of daylight versus artificial light.
- The greenhouse effect: public versus private transport.
- Hot water wastes energy.

The spots were broadcasted on a rotation system, so they reached the targeted audience in various occasions for a year (it was estimated that over 600,000 children had seen the spots). After this, the materials produced were published in IDAE's website for free use. Some Spanish Regional authorities have requested the use of those materials in schools, and primary school teachers have also asked permission to use them in the classroom.

- Clear focus of the objectives of the programme.
- Ongoing broadcasting for a long period of time.

- There was not prior preparation of results evaluation as the campaign was conceived as an experimental action (try and see).

PRE-RESEARCH

"*Survey of public opinion and attitudes to energy saving*", a quantitative and qualitative study carried out in November 2002 by Demoscopia and the Centre for Sociological Research, for IDAE.

EVALUATION

Disney Channel monitored the audiences.
As it was designed as an experimental action, no evaluation study was planned.

E5 MEDIA CAMPAIGN *"ENERGY FOR ALL, ENERGY FOREVER"*

PROMOTER

IDAE - Institute for Energy Diversification and Conservation

Goal
Raising public awareness of the social value of energy and of the impact people's own behaviour can have in energy conservation. By doing so, promoting the responsible use of energy and public debate on the issue.

Target group
Spanish general public (42,000,000 people).

www.idae.es

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CONTEXT

In November 2003, the Spanish Government adopted the Strategy for Energy Saving and Efficiency 2004-2012. This Strategy estimated 12,853 million euro savings for the fore mentioned period. In order to reach this goal, it proposes, among others, communication activities aimed at raising public awareness about the responsible use of energy in different environments (home, electrical appliances, public and private transport, etc).
Spanish citizens are directly responsible for using 30% of energy produced in Spain (12% at home and 18% in the car). Despite this, they are generally unaware of the value of energy, its origin and its cost, both in financial and environmental terms.

ABSTRACT

"*Energy for all, Energy forever*" ("*Energía para todos, Energía para siempre*") is a media campaign focusing on TV and radio that was broadcasted between November 2004 and May 2005. It had a budget of 6,000,000 €, provided by the national Strategy for Energy Saving and Efficiency and it was managed directly by IDAE's Media Department. The campaign was designed by one of the most renowned advertising agencies in Spain, that was selected in public concurrence. Its message was "Energy is vital to our lives but it is a scarce resource that can be exhausted. It is important to use it properly so that it lasts for many more lifetimes".

RESULTS

Six TV spots (two longer and general ones, and four shorter, specific ones focusing on lighting, transport, heating and air conditioning) and five specific radio slots were produced. They were broadcasted by four TV stations and four radio stations, all of them being general interest, and the ones with highest audiences covering the whole country. In addition, there were 65 appearances in different TV programmes.

- Clear focus of the campaign's objectives.
- The main challenge was to define the message and general style of the campaign to grant its suitability to all kinds of public. IDAE set up a working group with members of its own personnel and the advertising agency to define the structure, contents and format of the campaign slots.

- The materials produced did not undergo a pre-test with representatives of the target audience to assess the quality and understanding of the messages.
- Behavioural changes happen in the long-term, and it is very difficult to evaluate the impact of media campaigns limited to a short period of time.

PRE-RESEARCH

Some reports on the issue were reviewed. Of special interest was the "*Survey of public opinion and attitudes to energy saving*", a quantitative and qualitative study carried out in November 2002 by Demoscopia and the Centre for Sociological Research, for IDAE.

EVALUATION

Regular monitoring and audience assessments of the broadcastings were carried out.
A randomized telephone survey was carried out among individuals aged 16 and over in May 2005 (1,000 interviews of fifteen minutes). Results showed that seven out of ten people who stated to have seen the campaign said the message was very clear and interesting.

E7 PLAN FOR THE RENEWAL OF DOMESTIC APPLIANCES IN MADRID (PLAN RENOVE) 2006

PROMOTER

Madrid Regional Government (Madrid Autonomous Community)

Goal
Promoting the use of energy efficient appliances by means of subsidising their acquisition when replacing conventional ones.

Target group
Consumers (Madrid has a population of 6,000,000).

www.madrid.org;
www.idae.es

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CONTEXT

One of the main aims of the Autonomous Community of Madrid Energy Plan 2004-2012 is to reduce energy consumption by 10% by 2012. To achieve it, the regional government has implemented a series of measures aimed at all energy consuming sectors in the region. Many of those are undertaken in conjunction with the National Government under the Strategy for Energy Saving and Efficiency 2004-2012. This Strategy estimated 12,853 million euro savings for the fore mentioned period.
Efficient domestic appliances are more expensive than conventional ones. Besides, in Spain there is a lack of awareness both of the public and of the actual sales personnel regarding the advantages of energy efficient domestic appliances and energy labelling.

ABSTRACT

"*Plan Renove de Electrodomésticos en la Comunidad de Madrid 2006*" consists in the subsidising, with 80 €, the purchase of class A and above domestic appliances (refrigerators, freezers, washing machines and dishwashers) for the replacement of old ones. The Plan is supplemented both with a series of training activities aimed at salespersons and citizen information campaigns. Subsidies are provided by the regional government, that has an annual budget of 9,000,000 for the whole programme.

RESULTS

Plan Renove was implemented in the Madrid Autonomous Region in 2006 supported by a media campaign. The Plan was developed in conjunction with the two main associations of retail establishments in the region, which undertook management and liaison with the sales outlets.

- Consumers of A class (and above) appliances could ask for subsidies if the appliance was in the data base of the Institute for the Diversification and Saving of Energy (IDAE) at www.idae.es; it had to replace an old one and be installed in Madrid.
- Subsidies were available at Partner Commercial Establishments (the vast majority of the establishments were). Requirements to become a partner included training of sales personnel in energy labelling and the dissemination among consumers of Plan Renove and the advantages of efficient domestic appliances.
- The outlet checked whether there were funds available by way of a software tool over the Internet and, if so, 80 € discount per good was applied on the bill instantly.

Over 107,000 old domestic appliances replaced with new high efficiency units; a direct energy saving of around 4,400 equivalent tons of oil i.e. the equivalent to the annual electricity consumption of more than 42,000 Madrid households; an induced reduction of over 124,800 tons of CO_2 discharged to the atmosphere a year; and an increase in the market share of domestic appliances of class A or above, which rose from 43% in 2005 to 70 % in 2006.

- Cooperation with retailers' associations was essential for success.
- Increase in sales of class A domestic appliances has been confirmed.
- Simplification of the subsidy application procedure to the outmost.

- It is difficult to grant that the purchase is actually aimed at replacing an old one of the same type. In the second edition of the Plan, carried out in 2007, the subsidy application requires proof that the old appliance has been properly discarded (recycled).

PRE-RESEARCH

A prior study of the market analysed the domestic appliance retailing sector in Madrid, its organizational and training structures, and the existing main barriers for the purchase of these kinds of appliances.

EVALUATION

The regional government conducted a stringent inspection campaign on the retailers' premises.
Sales percentages have also been obtained.

E8 TRAINING PLAN FOR DOMESTIC APPLIANCE SALES PERSONNEL ON ENERGY LABELLING

PROMOTER

IDAE - Institute for Energy Diversification and Conservation

Goal
Teaching the energy labelling system to 10% of Spanish domestic-appliance sales personnel. They will work as a vehicle bringing this information to the consumer and, therefore, stimulating the acquisition of class A domestic appliances. An indirect objective was for the consumer to learn to include energy efficiency values in his purchase criteria.

Target group
10% of Spanish appliance sales personnel (4,000 people) to get in touch with 20% of citizens (8 million people).

www.idae.es;
www.anfel.org;
www.anged.es

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CONTEXT

Following Directive 92/75/CEE (energy label), in 2004 IDAE sets up a working group on the issue. The next year an Energy Saving and Efficiency Action Plan is implemented for the period 2005-2007; this case study is one of its tools. A second Plan for 2008-2012 was also approved.

ABSTRACT

The programme was designed in 3 variants: face-to-face training, e-learning and publication in specialised magazines. It extended from April 2006 to December 2007 with a budget of 122,400. For the face-to-face variant thirty one people with a technical profile were trained to be the programme's trainers and were responsible for delivering the courses to domestic-appliance sales personnel. IDAE cooperated with associations of domestic appliance sellers, distributors and manufacturers.

RESULTS

75% of the population addressed (over 3,000 domestic appliances sales personnel) finished the programme and got a certificate by IDAE, with an average mark of 83 out of 100. The programme was carried out in thirteen autonomous communities, out of the nineteen that form part of Spain.
Sales of class A domestic appliances have increased an average of 50% every year after the programme's implementation. It is not possible to state that this is a direct effect of the training, but there seems to be a synergy with the more recent Domestic Appliances Renewal Plan (Plan Renove). Plan Renove consists of subsidising consumers the acquisition of white goods labelled A, A+ and A++, but only credited sales outlets can offer the subsidies. Some Autonomous Communities have established that for getting such an accreditation at least 50% of the sales personnel of each sales point must have been trained on energy labelling by IDAE's programme in any of its variants. The online course through IDAE's website was open until December 07, hosted in a LMS platform, for those vendors who were not able to do the face to face or publication training course.

- The programme was initially very well planned, particularly with regard to teaching documentation. Furthermore, all the teachers had been previously selected from their companies' technical personnel.
- When preparing the course documentation, advice was provided by very high level technical experts in the manufacturing sector, who occasionally took part as teachers in the trainer-training phase. The material was very thorough, simple and accessible.

- Collaborating agents were not available for the whole of Spain.
- Low availability of free time on the part of domestic-appliance sales personnel (to attend training not specific to their daily work, together with a lack of motivation regarding training).
- Insufficient results obtained from indirect training: Internet course (for the e-learning version of the course) and specialist journals.

PRE-RESEARCH

Working group meetings with appliances sales associations, manufacturers and consumer associations to find out the best ways to promote A, A+ and A++ appliances. The result was to reach first the group of vendors.

EVALUATION

Attendance (75% of targeted audience).
Results of the tests needed to get the certification (an average mark of 83 over 100). Individual data are available for each student in each of the three training variants.

E9 COLLECTION OF USED COOKING OIL FROM HOUSEHOLDS – LOCAL AND INNOVATIVE BIODIESEL

PROMOTER
EREN - Regional Energy Agency of Castilla y León

Goal
Improving the share market of biofuels by promoting the development of a regional biodiesel industry that uses cooking oil as raw material.

Target group
Consumers, households and schoolchildren (100,000 people). More specifically, potential providers of domestically used cooking oils (households and restaurants) and potential users of biodiesel (urban transport fleets).

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CONTEXT

Spain is a long way from the goal established by the European Directive on biofuels: their market share is below 1% and following the current trend it will be no more than 1.7% by 2010 (Directive goal, 5.75%l). The Spanish Plan for the Promotion of renewable energy sources is mainly focused on bioethanol while little progress is being achieved in biodiesel. Biodiesels are tax-free in Spain, and used oil collection is free for households and restaurants. Castilla y León (one of the seventeen autonomous communities of Spain) produces over 6,000 tonnes of used oil per year, 2,200 t of which are being collected separately. If 50% of this waste were transformed into biodiesel, oil imports in the region would be reduced by 3,000 t/year. Furthermore, between 1,000 and 2,300 jobs could be created.

ABSTRACT

The programme for collecting cooking oil in the Castilla y León region is part of the ALTENER project "*Local and Innovative Biodiesel*", EREN being one of its partners. It ran from January 2004 to February 2006, and it was financed by both the EC project and by EREN (222,600 euros). The programme aims to increase both the regional supply and demand of biodiesel. A big handicap was that little knowledge on collection and management strategies was available and there was no reliable data on collectable cooking oil or on collection and management costs. Given this situation, the programme was organised in three areas: 1) Implementing pilot actions; 2) Defining the best possible project to be implemented in the region; 3) Disseminating information on biodiesel opportunities and raising awareness among both used oil producers and potential consumers of biodiesel.

RESULTS

Pilot actions on oil collection were carried out in ten urban areas between October 2004 and February 2005. They reached over 39,000 people; 7,800 litres of used cooking oil were collected using four different systems: collection at households, collection at schools, mobile units and large containers placed in public buildings.
Different studies were also carried out providing valuable data. There is an estimated potential of 9,000 t/year of collectable oil in the region. The use of big containers appears to be the most suitable collection system, with a cost of 24 euros/L for a 250km average route, recycling 1,000 litres. In this regard, 400 litres is the minimum amount to be collected on a 100km route for the system to be profitable. Finally, producing biodiesel from locally collected oil has a cost of 590 euros/t. Study results also concluded that a single biodiesel plant is enough for the whole region, with a production capacity of 6,000 t/year. EREN has set up a new industrial company together with a very important investor group to build it. Existing storage and production plants will cover the extra requirements.
A communication campaign was launched at the end of 2004 covering local media, the production of different materials, meetings with local authorities and potential biodiesel consumers, and a seminar (200 participants). The proposed ideal biodiesel consumers are public and commercial transport fleets.
As a result of the programme, the Regional Government has approved a new Urban Waste Plan defining specific measures to be taken to improve, among others, oil collection.

› High participation and collaboration from local authorities and recovering companies.

PRE-RESEARCH

Study of the best practices on biodiesel promotion at local level provided by the Clean City Network.

EVALUATION

1,000 questionnaires were distributed to potential biodiesel consumers to assess the quality of the information received through the programme's various communication actions.
Media impact monitoring.

E10 MEDITERRANEAN VERANDA WAYS / SUNRISE BUILDING

PROMOTER

EMVS – Madrid Municipal Housing and Land Authority

Goal

Creating sustainable architectural spaces (social housing and bioclimatic conditioning of an existing urbanisation) as exemplary projects. Their exemplarity extends beyond physical constructions as it includes improving citizens' awareness, participation and education on high energy efficiency systems and the use of renewable energies and recycling materials, facilitating the communication and exchange among city inhabitants, promoting behavioural changes towards power saving, health and well-being.

Target group

Households and youngsters (90,000 people approximately; an average of three people per dwelling).

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CONTEXT

Vallecas is a large working class neighbourhood of Madrid whose enlargement has been planned and is under way. Many EMVS building developments are currently taking place in the New Extension Area of Vallecas and they are providing a great opportunity to test the incorporation of new sustainable values (landscaping, energy saving and efficiency, renewable energies, accessibility, diversity, recycling, etc) to the criteria already considered when developing an urban residential area (fair distribution of advantages, meeting city-planning standards, infrastructure engineering….).

ABSTRACT

Mediterranean Veranda Ways refers to the bioclimatic landscaping of an urban public space, a boulevard, and it is a project of the LIFE Programme 2000-2004. The pedestrianisation of the area was the first aim to reach. Three cylindrical constructions "breathing" like a tree, called "air trees" have been built following a common structure and according to sustainability criteria: climatic, ludic (children's playing area) and media (a textile wall serving as a screen).
Sunrise Building refers to the development of 139 government subsidised homes, garages, storage rooms and commercial premises that must reduce the average CO2 emissions by 25-60% and implement energy efficient criteria in their construction and equipment. It is a demonstrative project derived from the participation of EMVS as an integral partner in a global project of transnational character, approved by the 5th Technological Research and Development Framework Programme and sponsored by the Directorate General TREN of the European Commission.

RESULTS

The building works finished successfully at the end of 2006 (social housing) and 2007 (boulevard).
More than 90% of the materials used in the boulevard are recycled or recyclable, the emissions generated are compensated by the trees and plants growing there, the evapotranspiration air conditioning system used in the boulevard air trees drops the temperature up to 7ºC, the energy produced by the photovoltaic panels on the top of the trees contributes to the maintenance of the installation, social use and interaction has substituted traffic. The social housing, follows the same criteria and is already a reference site for sustainable architecture and urban planning both at national and European levels.

- Having a clear objective through the whole process.
- High intellectual content thanks to the collaboration with various experts, universities and other institutions.
- Dealing with the inhabitants of social homes allowed to assess needs, detect deficiencies and correct them.

- Neighbours' little knowledge and awareness regarding energy efficiency. More than a weak point of the programme, this is just a social feature that poses a great challenge.

PRE-RESEARCH

EMVS is involved in different international projects on efficiency and social viability of bioclimatic architecture, as well as being in contact with organisations, participation in conferences, etc.

EVALUATION

Sensors to measure temperature, CO2 emissions, humidity and decibels have been installed in 12 social housing dwellings and the boulevard air trees to verify energy saving, reduction of emissions and comfort levels.
Surveys have been delivered to neighbours to assess their satisfaction and gather proposals.
Meetings with residents and owners' associations have been organised. It is too early to assess knowledge acquisition, increase in awareness and behavioural change, but it can be stated that information, training and people's involvement results in an interest and will to actively participate in the sustainable way of living exemplified by the architectural examples.

F1 CLIMACT (CO_2 IMPACT CALCULATOR)

PROMOTER

ADEME - French Agency for Environment and Energy Management

Goal
The Climact test aims to increase the awareness and understanding of the general public on individual responsibility in emitting greenhouse gases.

Target group
Consumers, citizens (= individuals) and schoolchildren

http://www.ademe.fr/climact/

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CONTEXT

The Climact calculator was launched in 2004 in the framework of a national communication campaign titled "*Energy savings, let's hurry, it's heating up*" carried out by ADEME. The calculator was designed as an awareness raising tool aimed at the general public, whereas ADEME usually creates information dissemination tools.

ABSTRACT

Through a series of twenty four questions on the individual's habits in energy consumption and behaviour (heating, hot water and cooling at home and in the office, domestic appliances and equipment, transportation, etc.), an individual carbon impact is calculated. The person undertaking the test can simultaneously select measures to reduce her/his carbon impact.

CONCLUSIONS

Most of the measures recommended to reduce personal carbon imprint look realistic. But what is more interesting is to look at the order of importance of all these measures. To take a shower instead of a bath, for instance, comes first (in fact, most people already do this!), and the most difficult is to change transportation habits by using cars less frequently.

> The focus of the calculator is to raise awareness, and this has been successful.

> However, it creates a guilty feeling in some users. This is particularly the case with the questions linked to transportation where people often feel they are unable to change (there is no public transportation available or they have to travel often for professional reasons).

RESULTS

The calculator was first distributed through ADEME's own network, which includes regional delegations and local energy advice centres. ADEME then began to distribute the calculators through its partner network. The calculator is one of the tools included and one that is best adopted by the partners. This mode of dissemination has been quite successful: in 2003-4, 750,000 of the 830,000 calculators produced were disseminated by ADEME's partners.

PRELIMINARY RESEARCH

The idea started out within a horizontal group within the Agency on "climate change and new instruments". Initially, the group intended to create a programme in 3 stages: first a questionnaire to calculate your CO_2 impact and compare it with a "sustainable" impact, then a proposal to commit to climate change measures, finally a proposal to compensate part of your impact. The latter idea was finally rejected on the grounds that the public was not ready for the concept of compensation.

EVALUATION

An evaluation was undertaken during a May 2004 operation, when the calculator was distributed in movie theatres where the film "*The Day After*" was playing. Carried out by an independent organisation, the evaluation revealed how the public of the four different movie theatres perceived the calculator in terms of form (colours, text...) and content.

F5 DÉFI POUR LA TERRE (CHALLENGE FOR THE EARTH)

PROMOTER

ADEME - French Agency for Environment and Energy Management and the Nicolas Hulot Foundation for Nature and Mankind

Goal
The Défi (Challenge in French) works by getting individuals to commit to adopt a series of measures in order to protect the climate.

Target group
Consumers / citizens (= individuals), youngsters, schoolchildren and groups such as companies, cities, organisations

http://www.defipourlaterre.org/

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CONTEXT

Défi pour la Terre was launched in May 2005 with important media coverage (daily TV, movies, radio, billboards, etc.) including popular youth media.
A dedicated website monitors volunteers, gives information on reducing one's carbon impact but most importantly it showcases the celebrities that are ambassadors for the Défi and broadcasts posts and videos by Défi volunteers. It thus combines information, personal commitment and feedback from peers and authorities or role models to change behaviour.

ABSTRACT

The programme was adapted from a successful initiative in Québec, Canada. The organisers wished to go beyond classical communication campaigns and set up an initiative based on the commitment-to-change theory.

There are ten basic climate protection measures that volunteers are asked to select from. Most measures concern habitual behaviour that can be applied every day at home or in transportation, but among the ten, there are also a few investment measures (insulation, sustainable shopping, etc.).

CONCLUSIONS

At first, the aim of the programme was to obtain a 100,000 ton reduction in (estimated) CO_2 emissions from the volunteers. This goal has been largely exceeded. For the second year of operation, a new goal was established called "1 + 1 = 1 million", i.e. to go from approximately 500,000 participants to one million by asking each volunteer to enlist a friend.

This goal, however, has not yet been achieved. But reaching this new quantitative goal is not considered as important as before. It is felt that organisations such as companies or local communities are increasingly committing to the Défi, using it as a means to raise awareness in their employees and publicise their efforts towards sustainable development.

- The IPSOS survey shows that new behaviours were adopted.
- In order to run such an operation at its full potential, more manpower is needed.

RESULTS

At present, over 700,000 people have committed to the Défi.
Nevertheless, the Défi seems now to have a life of its own. Although the number of people committed is increasing more slowly now, the Défi has become a useful tool for companies and local communities that would like to get involved in sustainable development initiatives.

PRELIMINARY RESEARCH

A qualitative study was commissioned by the organisers and carried out by an independent organisation in order to precisely define the form of the Défi. This study used three representative panels to test the perception, understanding and interest of the operation, to identify the barriers and opportunities to public adhesion to such an operation, to define the best adapted terminology and semantics, etc.

EVALUATION

An independent survey-based research company conducted a survey targeting participants of the Défi commitment on one hand and the general public on the other hand.

F6 ETIQUETTES ÉNERGIE (LABELS ON HOUSEHOLDS APPLIANCES)

PROMOTER

ADEME - French Agency for Environment and Energy Management

Goal
The main goal of the energy label is to increase the sales of energy efficiency appliances and to reduce or forbid the sales of non efficient models.

Target group
Consumers

http://www.ecologie.gouv.fr/Etiquette-energie-un-dispositif.html

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CONTEXT

In France, the energy label was first introduced on cold appliances in September 1995 through the transposition of a 1994 European Directive. Since only cold appliances were labelled (and not all appliances correctly labelled in the first months), the consumers did not see many labels and did not really understand them. Furthermore, many consumers believed that cold appliances do not consume much energy.

ABSTRACT

ADEME carried out monitoring activities to ensure that the energy labels were actually displayed and that the information given was correct before turning to communicative activities. Booklets and advertising material were developed. At national level, ADEME carried out general awareness-raising campaigns on a regular basis where the energy label is highlighted. Alongside the national activities, ADEME began a series of initiatives towards appliance retailers in order to motivate them to display the energy label and to promote the most efficient appliances.

CONCLUSIONS

Today, manufacturers have adopted the energy label since it permits them to display the high energy performance of their models. The label has introduced more transparency on the technical performance of the appliances. Consumers are aware of the label and know how to read it. This has motivated manufacturers to increase the share of energy efficient appliances (classes A and B, later A and A+) on the market.

> The energy performance of appliances is now taken into account by manufacturers, retailers, consumer organisations, national and European administrations and consumers. For cold and washing appliances, the least efficient models have been removed from the market.

> In France, the retailers constitute the most difficult group to work with. This is due to the fact that these actors are strongly centralised, that competition is very high and therefore that each group wanted either to have exclusive participation in the programme or decline.

RESULTS

Through a periodic opinion poll carried out for ADEME, we know that 76% of the population recognises the energy label and that energy consumption is the second criteria of selection for domestic appliances.

PRELIMINARY RESEARCH

The preparatory phase included technical and economic studies aimed at analysing the national and European appliance stocks in order to evaluate the energy use and economic stakes of domestic appliance consumption, and to analyse the existing labelling and appliance standard scheme in the US and the cooperation with the industrial sector.

EVALUATION

In 1998, three years after the introduction of the label on cold appliances, an independent opinion survey firm conducted a study on a panel of 10,000 households in order to determine what criteria customers used in selecting a new refrigerator (price: 45%, technical characteristics: 28%, electricity consumption 18%). The survey also showed that 46% remembered seeing the label and 73% of these respondents said it influenced their choice. In a 2004 opinion survey (same organisation, same panel), 22% mention energy consumption as the first criteria of choice.

F8 ESPACES INFO ENERGIE (LOCAL ENERGY INFORMATION CENTRES)

PROMOTER

An EIE is created between ADEME, one or several financial partners (often regional and local authorities) and a host organisation (non-governmental organisations specialised in housing or environmental issues).

Goal
Provide information and advice to consumers on energy efficiency and renewable energy

Target group
Households, social workers and building professionals

http://www.ademe.fr/particuliers/PIE/InfoEnergie.html

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CONTEXT

Following the oil crisis of September 2000, the French Government presented a National Programme for the Improvement of Energy Efficiency (PNAEE) in which the creation of local energy information centres was a key measure.

In 2001, ADEME, the French Environmental and Energy Management Agency, launched the nationwide network of local energy advice centres called Espaces Info Energie (EIE).

ABSTRACT

The EIE network operates both as a single national network and as distinct regional ones. At national level, the EIEs benefit from support from ADEME in the form of a three-day introductory training course on energy management for each adviser and through access to ADEME's large catalogue of permanent training courses (from technical subjects to communication and organisation strategies). ADEME also carries out regular national media campaigns on energy efficiency and renewables that highlight the EIEs as the contact points for information.

CONCLUSIONS

EIEs succeed in their two missions: to provide free and independent individualised advice to the general public, organisations and small companies and to carry out outreach and information activities by holding conferences, leading working-groups, organising on-site visits, participating in fairs and exhibitions, etc. Both the number of individual advice contacts to be reached yearly and the number of events to be organised have strongly increased since 2001.

> Global beneficiary satisfaction is 90%, one out of four contacts decided to take action and many others stated that they will continue to develop their "project".

> Although the target group of the EIEs is the general public, the main category reached is that of already motivated people with a "project" in mind, usually linked to solar energy or passive construction. The second major weak point is related to the professional status of most energy advisors. In general, these are relatively young and inexperienced people and they are employed through special government-aided temporary employment systems at relatively low salaries. There is thus a large turnover of staff: after 1.5 or 2 years of experience; many advisors can find better paid jobs elsewhere and thus leave the EIE system, which then has to find and train new advisors.

RESULTS

The number of EIEs is currently 187 (340 advisers).
One in-depth contact leads to an average annual primary non-renewable energy saving of 0.16 toe and avoided emissions of 0.27t eqCO2/year. It represents 36,000 tCO2/year.

EVALUATION

Since its creation in 2001, the network has undergone three separate sets of evaluations: an evaluation of the energy advice component of the EIEs activities carried out at the national level, an independent evaluation of the outreach activity component carried out in three regions, seven regional evaluations in 2006 and eight in 2007.

FI1 ENERGY AWARENESS WEEK

PROMOTER
Motiva Oy

Goal
The objective is getting people to voluntarily think and act in favour of sensible use of energy in an environmentally conscious way in their daily lives.

Target group
Consumers/households, school children, kindergartens, companies, various intermediary parties as municipalities 200-300, organisations adopt the theme week each year.

http://www.motiva.fi/en/areas/energyawarenessweek

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ABSTRACT

The national Energy Awareness Week in Finland is an annual theme week in October (week forty one) during which schools, companies and other organisations focus on energy efficiency activities. From 1996 the Energy Awareness Week has become an established annual event in Finland. As the coordinator, Motiva provides tools, informative material, tips and information dissemination to support the participants, and acts as the national media contact point. Motiva also organises workshops to activate different organisations to exchange ideas, to collaborate and to arrange events together.

The energy awareness week raises topics such as heating, use of water, traffic, use of electricity and green procurements, and motivates people to use energy efficiently and rationally. Every weekday has a special energy related theme: Monday – heating, Tuesday – traffic, Wednesday – water consumption, Thursday – energy efficient purchases, Friday – electricity use, Weekend – material efficiency (recycling and waste management).

- Early planning and early invitations as well as information provided via brochures, a planning seminar and an intranet for participants are important success factors.
- Networking has had an important role because participants of the week are the ones who actually plan and carry out the events of the week. Reaching many people is easy.
- Providing themes for weekdays has given people the freedom to adapt their actions and events depending on organisation type; the concept works really well.
- Participation in the Week is easy – there is no registration fee.
- Networking and commitment of the participants are probably the main factors that explain the success of the programme.
- The annually organised campaign is quite well known and popular.

- Most of the new attendees are obtained through personal contacts. Marketing efforts should be focused on face-to-face marketing.
- Actions and events of the Week are also somewhat uncontrollable.
- There are not enough resources for coordinated national advertising.
- Broader participation and more active cooperation among participants and with the media could give even better results.
- There are some cases where un-registered organisations have adopted the Week.
- The target group is quite heterogeneous. More segmented actions and tools should be developed in the future.

PRELIMINARY RESEARCH

In the first year of the Energy Awareness Week (1997) eight pilot cases were analysed in the Linkki II Research Programme, which gave a good basis for the implementation of the week during following years.

EVALUATION

The number and type of participants are monitored as well as media hits and contacts with the journalists. In 2006, there were 322 media hits of which, 295 were press hits, fourteen radio, five TV, four Web and four news agency hits. Feedback questionnaires are distributed among the participating organisations to review whether the events and activities were successful or not and a feedback seminar is organized annually.
In 2006, students at the University of Helsinki searched and analysed the theme week from different theoretical perspectives. The results confirm the findings that the Energy Week is a good possibility for the participants to save energy. Participating in the week gives good publicity to the companies.

FI2 NATIONAL ENERGY THEME WEEK FOR PRIMARY SCHOOL SECOND FORM PUPILS

PROMOTER

Jointly the government, Motiva Oy and energy utilities

Goal
To make children familiar with everyday energy issues, especially saving energy.

Target group
Second form pupils in primary schools (aged around eight). The size of the target group has been 20,000-25,000 per year since 1996 (roughly half of the age group).

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CONTEXT

The national Energy Awareness Week in Finland is an annual theme week in October (week forty one) during which schools, companies and other organisations concentrate on energy efficiency activities. It was first introduced in primary schools in 1996 and a year later extended to other target groups.

ABSTRACT

An energy theme week is organised every October in Finnish primary schools for approximately half of the second form pupils. The energy topic is studied during one to two lessons every day, culminating in a national energy saving competition. Local energy companies support schools by providing education packages, organising visits to energy utilities and awarding the schools locally. Teaching material is published by the Children's Centre publishing house and developed in cooperation with teachers and Motiva.

- Cooperation with energy utilities is essential.
- Professional and efficient marketing by publishing company LastenKeskus.
- The material is being developed continuously by Motiva and the publishing house.
- Impartial energy context – several parties were involved in developing the material.
- Pedagogical approach of the material: teachers were and are involved in producing the material- A teacher's guide has been developed to provide guidance in teaching energy and using the material for upper levels as well.
- Good motivation: all the stakeholders involved find energy saving and energy efficiency education important.

- Involvement of parents could be enhanced.
- Results of learning are partly teacher-dependent – the commitment and enthusiasm of the teacher is important.
- The possibility of continuous use of material after the theme week is often not recognised.

RESULTS

- Pupils' knowledge on energy saving has been high after the theme week.
- Pupils find energy saving sensible (96% of respondents) but sometimes difficult (one third).
- Almost 90% of the parents who participated in the evaluation agreed completely with the argument that saving energy is important and believe that it is important to teach children how to save energy.
- Over 80% of the parents believed that the education received during the theme week had a good influence on their child and the children attempted to save energy at home.
- Energy saving was discussed together with the whole family. Only 17% of the families did not have any joint conversations about the subject. Unfortunately it looks like the majority of the active discussions faded soon after the week had passed.
- Most of the classes (8/12) had not addressed energy saving issues before the Energy Awareness Week. However, nearly all teachers assumed that energy saving was somewhat familiar to the pupils before the education took place.
- According to the teachers, pupils were really interested in energy saving during the education. The teachers firmly believe that energy efficiency education affected the pupils in a positive way.

EVALUATION

Evaluation was carried out in 2001 as a part of a SAVE Project. Evaluation data was collected by testing the pupils and using questionnaire-based surveys for parents and teachers. Altogether 211 pupils, twelve teachers and 180 parents took part in the evaluation.

FI3 THE FINNISH CLIMATE CHANGE COMMUNICATIONS PROGRAMME

PROMOTER

Motiva Oy in close cooperation with several ministries.

Goal

The objective was to explain the issue of climate change to the public, to help them understand what they can do and to motivate them to take action.

Target group

The target group was the general public – 5.2 million inhabitants in Finland. The Programme included sixty two projects with various target groups such as schoolchildren or professionals in certain sectors (agriculture, energy etc.). In 2006, the main target group of a consumer campaign were, highly educated urban males aged from 30 to 45.

http://www.ilmastonmuutos.info/eng/cfmldocs/

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CONTEXT

The programme was launched following a parliamentary initiative in the autumn 2002 as part of the implementation of Finland's National Climate Strategy.

ABSTRACT

The aim of the Climate Change Communications Programme (2002-2007) was to explain the issue of climate change to the public, to help them understand how they can make an impact themselves and to motivate them to take action. The Programme provided information, financed practical projects and promoted cooperation.
In addition to financing focused projects, information was distributed through various events, publications and websites. The Programme also supported the practical work that authorities, research institutes and organisations carry out as part of their normal operations. The culmination of the Programme coincided with an EU-wide public information campaign in 2006-2007. A national campaign '*Tee muutos*' (Make a Change) was conducted across Finland in collaboration with the EU-wide campaign. It involved more than 70 partner organisations and a group of climate ambassadors trained by the programme.

- A strong point was the gathering together of many professionals from different fields throughout the Programme, starting from the preparatory phase.
- In retrospect, the timing of the programme was perfect.
- It seems to have been prudent to concentrate first mainly on professionals and later extend to the general public.
- The Finnish Climate Change Communications Programme attracted people from different administrative sectors and they worked well together.

- The special target group of the 2006-2007 campaign (highly educated urban males aged 30 to 45) was challenging. More resources and segmented marketing should have been done in order to reach this target group sufficiently.

PRELIMINARY RESEARCH

The former Ministry of Trade and Industry (at present the Ministry of Employment and the Economy) commissioned an opinion poll in 2002 to determine the attitudes and level of knowledge of the Finnish public. The Programme was focused first on professionals: businesses, including firms in the energy, waste management, construction, forestry and farming sectors, as well as local authorities, regional associations and journalists. Teachers and pupils were also addressed from the beginning of the Programme. Later on, much more focus was also put on the general public.

EVALUATION

Monitoring was carried out including numbers of website visitors and ways of using the site, numbers of seminar participants and their feedback, distribution of leaflets and feedback on them, advertising material and media hits during the first year of the programme. The 2002 poll was repeated in 2004 and 2007. The 2007 poll showed that the people in Finland clearly understand better how they can act to help mitigate climate change than they did in 2004 and 2002. More and more people are aware of the benefits of actions like using public transport, separating and recycling wastes, and saving energy. Citizens' readiness to change their lifestyles has also increased. The survey also revealed that habits have not changed much since 2004. People consider climate issues important, but still want to hold on to their old lifestyles, while expecting others to change theirs.

FI4 ENERGY EFFICIENT HOUSE

PROMOTER

Motiva Oy in cooperation with Ministries, associations and companies.

Goal

The current target of the campaign is to increase the share of low-energy houses among new single-family houses to the level of 25% by 2010. This new target has replaced the initial 20% target set at the beginning of the project in January 2005.

Target group

The main target groups are builders of new single family houses, building supervisors and media. The secondary target groups are building supervisors, retailers of construction materials, planners and students in the building and construction branch.

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CONTEXT

About 15,000 new single-family houses are built in Finland each year. A large proportion of these houses are built by the home-owners themselves. Regardless of the approach taken in such self-managed projects, the home-owner needs to interact with various intermediaries ranging from manufacturers of pre-fabricated housing shells to retailers, various planners and construction workers.

ABSTRACT

Given the large proportion of homes built by their owners, a four-year campaign (2005-2008) has been carried out for the promotion of low-energy houses. Due to the various stakeholders involved in any construction project, the campaign has also been implemented with wide participation of various stakeholders. The main communication channels in the campaign have been the campaign website, another website popular among the home builders, a brochure, posters and a guidebook.
Communal building supervisors are the key contact points for builders and need to be informed. Retailers are given information to help them offer energy efficient solutions for the customers.

- One of the strong points of the project has been an extensive communication strategy which was prepared during the planning stage for the whole duration of the project. It has proven very useful.
- Addressing all actors in the value chain is necessary. The extensive inclusion of twenty intermediaries has proven to be effective for the implementation of the programme both as organisations with multiplier effect and as information providers for the campaign contents.
- The use of the internet as the main information channel in this type of campaign turned out to be cost effective.

- The participating companies could have been more active in promoting the campaign. Also, a strategy for motivating them could have been useful.
- It might have been even more effective to have an even larger number of participating intermediaries.
- More interactive contents at the website would have increased the number of visitors (but would also have required a lot more resources).
- The rules on how to use the campaign logos and "the look & feel" should be more precise.

PRELIMINARY RESEARCH

A survey among journalists was made in the beginning of the project (2005). The journalists considered energy efficiency to be very important both from the society's and the individual's point of view. They also complained about the lack of information on the topic.

EVALUATION

In December 2007, three web-based surveys were made to evaluate project results:
- among builders of single-family houses.
- among the key personnel in the participating companies and organisations.
- among journalists (comparison to the survey made in year 2005).

48% of those building their own homes knew of the campaign and 26% had visited the campaign website. In their responses they desired more information (e.g. calculators) particularly on the heating costs of alternative heating methods and information on efficient products. Almost 40% of the home builders were planning to build a low energy house or a house where the energy efficiency level exceeds that required in the building code.
Technology and products need to be improved. Building supervision could be even more efficient.

FI5 AN INFORMATION CAMPAIGN ON SAFE AND ECONOMIC DRIVING

PROMOTER

Motiva Oy in co-operation with ministries, associations, companies and training organisations.

Goal

The objective was to influence driving habits by providing Ecodriving training to consumers and professionals. The quantitative objective was to increase the number of trained private (by 1,500) and professional (by 2,000) drivers. A qualitative objective was to enhance the drivers' knowledge on the benefits of Ecodriving (cost savings, fewer accidents as well as reductions in emissions and noise levels).

Target group

The target group are private car drivers (2.5 million in Finland) and professional drivers (45,000).

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CONTEXT

Ecodriving has been one of the measures included in the National Climate Strategy as well as the National Action Plan for Energy Efficiency (2003–2006). It was also one of the key measures in the Energy Conservation Agreements in public transport and in the truck and van sector. Ecodriving training is also included in the Directive 2003/59/EC on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers.

ABSTRACT

The 2-year campaign (2005-2006, in Finnish '*Malttia ja viisautta teille*') targeting both private car drivers and professional drivers was a continuation of long-term efforts to pursue Ecodriving. The different stakeholders reached during the project included consumers, transport operators, car dealers, those who make decisions regarding company cars, media and policy makers. The training organisations were responsible for the marketing and training activities towards companies. The campaign offered marketing tools (brochures, handouts, a famous transport journalist as a "spokesman" etc.). Private car drivers were reached by media, internet, car dealers and in exhibitions.

- A wide range of sector authorities and organisations as well as training organisations were involved in the planning and preparatory phase - which also entailed a challenge for planning and coordination.
- Personal contacts to companies and decision makers are most effective. This needs time and resources.
- A famous national spokesman (personage, ambassador) is recommended.

- The small budget limited the channels and measures used.
- The commitment by the participating training organisations was expected to be higher.
- The campaign should have been segmented more clearly to the different target groups. The messages could have reached the target groups better.

RESULTS

The targeted numbers of trained passenger car and truck drivers were exceeded but the target for bus drivers was not reached. 53% of the respondents believed that the campaign had some impact to the demand for Ecodriving training. All the respondents agreed with the approach of joint campaigning. The logo, slogan and graphic design of the campaign were considered very suitable. More financial support, free material and joint events were desired. Fiscal measures and incentives were considered most effective in promoting Ecodriving.

EVALUATION

At the end of the campaign an internet questionnaire was made to the steering group, Ecodriving training organisations and other actors (approx. 120 recipients). The questionnaire included questions concerning campaign material, the campaign's suitability to company activities, the campaign's visibility in media or otherwise, its impact to the request of training in general, incentive measures etc.

The progress of the campaign and forthcoming activities were reported to the steering group consisting of financiers twice a year. In addition to the number of training participants, also materials distributed and media hits were monitored. Furthermore, information on actual reductions in fuel consumption during the course of the campaign were collected from the training organisations.

FI6 YARD TALK CAMPAIGN

PROMOTER
VVO Housing company

Goal
To generate a dialogue on the influence of housing and lifestyle on climate change among people living in the same apartment building.

Target group
About 100,000 inhabitants of the VVO houses + visitors on the website www.energiaesteri.fi

www.energiaesteri.fi
www.vvo.fi

Kari Mähönen,
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CONTEXT

The campaign was a pilot project for a model to be adopted in other housing companies or related organisations. The Finnish Real Estate Federation carried out a climate change campaign which was of continuation the yard talk campaign.

ABSTRACT

The goal of this provocative campaign (April to October 2004) was to generate dialogue in the yards about the impact of climate change and its relation to housing. The aim was to generate active conversation which would lead into concrete energy and water saving actions. The themes raised were energy, use of water and recycling and their impact on climate change.
Along with traditional information dissemination, also the tools of commercial marketing (provocation and startling) were used.
Provocative messages that looked like they were written by other residents were distributed in staircases of 850 houses by 150 maintenance companies. The approach was later revealed to the residents.
As part of the project activities, the personnel of VVO and maintenance companies were trained about climate change and housing.

- The programme goal was clear and it was reached.
- In the planning phase advertising professionals were used. Materials and ideas were produced in workshops.
- The communication channels used were close to the target group and hence effective.
- The campaign managed to raise fierce debate as soon as the campaign was launched. For example, arguments and writings of real residents appeared on the billboards.
- Aftercare actions were organised. There were writings about the campaign in the VVO magazine and the billboards. Information about climate change was printed on billboards and residents were invited to explore the Energiaesteri web site.

- It would have been essential to get the utmost in-house support for those implementing the campaign, which provokes a lot of comments.
- Some residents were accused of placing the writings on the billboards by others although they had nothing to do with them. This raised some negative feedback.

RESULTS

The campaign showed the organisers how debates between inhabitants can be launched and started up. The Finnish Real Estate Federation did almost the same campaign but it was not as provocative as VVO campaign.

EVALUATION

No systematic monitoring or evaluation was carried out. The topics of residents' contacts with the VVO were recorded. The provocative nature of the campaign resulted in lengthy debate after the campaign ended.

G1 OPEN DOORS

PROMOTER
CRES - Centre for Renewable Energy Sources

Goal
The programme was aimed at creating a pilot innovative mechanism for raising the awareness of children aged 6-12 and their teachers on RES/RUE. The ultimate goal was to create informed and aware citizens who will seek optimal means of using alternative sources and energy saving.

Target group
Children 6-12 years old and their teachers, parents

http://www.energolab.gr

Ms Flora Stefanou,
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CONTEXT

It has been observed that children, during their school years, do not receive satisfactory information on renewable energy sources/rational use of energy/energy efficiency and that teachers do not have sufficient knowledge or suitable educational tools to teach energy subjects, and especially subjects concerning renewable energy sources and energy efficiency. Up to now, educational materials have been mostly in the form of school books and brochures.

ABSTRACT

Raising the environmental awareness of children must begin early at school, where children are socialised, shaping viewpoints and behaviours, setting the foundation for their future life. The role of the teacher in this effort is paramount. Teachers can influence their students and contribute to more suitable behaviour of the younger generation regarding energy and the environment. Also, a teacher understands better than anyone else that the future belongs to events open to the public, the production and dissemination of print and electronic materials, Internet web site development and dissemination actions in the mass media. Regarding events open to the public, three Energy Festivals were held in the geographical regions of the Southern Aegean, Crete and the Northern Aegean. The public, both general and specialised, who attended these events had the opportunity, through a series of creative actions, to realise that their own behaviour can influence the quality of the environment, how important the environment is, and how important it is for the future of the planet to develop new energy technologies which are both sustainable and environmentally friendly. CRES, also designed and produced printed and electronic materials (brochure, publication, CD-ROM) on RES/RUE. The nature of these materials is educational and recreational and their goal is to provide the necessary background for better understanding and creative discussion between the children on these topics. Also, it will help teachers to organise their lessons on energy better, emphasising the role of energy in everyday life.

CONCLUSIONS

The project taught us that the best way to teach children about energy is through interactive activities and highlighted the continuing need for dissemination of information on energy topics either through seminars or through the production of information materials.

> Solid preparation phase with special focus on the project team and effective cooperation with local authorities - CRES' prior experience with implementation of activities directed at children guaranteed the quality of material and actions produced - Experience derived from the planning and implementing of the project is a reference point for the application of similar projects.

> Difficulty in planning indoor and outdoor activities for a large number of people, in remote areas that do not have the necessary infrastructure - There should be more interactive events and less time given to indoor oral presentations, when addressing children.

RESULTS

Close collaboration with the schools in the geographic regions of the project continues after the implementation of the project. This collaboration concerns the distribution of printed and electronic information material that is produced within the framework of other projects and from our assistance in organising various activities.

EVALUATION

The evaluation of the project activities comprised several steps: analysis of population of target groups of project; sampling; data collection (questionnaires). The evaluation confirmed that the goals of the project were successfully reached.

N1 RAINMAKERS

PROMOTER
Enova S.F.

Goal
The brand "*Rainmakers*" represents an overall concept for energy education in Norwegian primary schools. It shall contribute to giving children and youth knowledge and positive attitudes about energy use, and thus contribute to Enova's goal of an environmentally friendly restructuring of energy production and use in Norway.

Target group
Children/school pupils (6-15 years of age), school-teachers, parents/grandparents

www.regnmakerne.no

Turid Helle,
Turid.Helle@enova.no

CONTEXT

Rainmakers exposes children to energy and environmental issues through teaching materials, educational games/activities/web-site, and a TV-show. It is part of Enova's household strategy, and is financed from Enova's general budget.

ABSTRACT

The Rainmakers programme has a long-term goal of increasing awareness and knowledge about energy and environmental issues among children, who are the citizens and decision makers of the future, thus stimulating more environmentally friendly energy behaviour over the long term. Three books (novels) by a well known Norwegian author are central in the concept. Then there are important communicative instruments such as frequent TV exposure, a national energy day and web-based activities, in addition to Rainmakers activities in schools.

No clear cut behavioural theories were used in the design of the programme, other than a hypothesis that increased awareness and knowledge of energy/climate issues among young people could help form future decisions and behaviour. The programme cooperates with the following organizations: Norwegian Directorate for Education and Training, The Research Council of Norway, Norwegian Centre for Science Education, Norwegian Science Centre Network, Norwegian Broadcasting Corporation (NRK), Fabelaktiv, and the municipal education offices.

CONCLUSIONS

The Rainmakers concept reaches the target audience, and the communication is effective.
Still, it is difficult to document long-term effects on energy behaviour.

The Rainmakers programme has now been extended permanently by Enova. This is an indication that the project is considered a success by the financier. However, it still needs to be properly evaluated.

- A unified national project with a unique brand.
- A well defined target group.
- Multiple channels to reach the target group.

- No robust use of behavioural theories in programme design.
- Difficult to evaluate effect on actual energy behaviour.

RESULTS

The polls indicate that the Rainmakers brand is well known in the target group. Between November 2005 and November 2006, knowledge of Rainmakers ("having heard of") increased from twelve to sixteen percent in the adult population. After being briefed about the purpose of Rainmakers, 95 percent of the adult population signal a "quite positive" or "very positive" attitude towards the programme. 40% of Norwegians between 6-15 years have heard of Rainmakers (2006). Those who have been exposed to the Rainmakers concept have a better understanding of renewable energy sources definitions. The Rainmaker club (Internet) had 14,000 members as of January 2007.

EVALUATION

The programme is monitored with the help of biannual opinion polls, as part of more general polls related to Enova's activities. Typically 600 people participate in these polls. There is a need to perform a thorough evaluation of the Rainmaker programme, but no concrete plans have been made yet.

N3 ELECTRICITY SAVINGS IN HOUSEHOLDS

PROMOTER
Ministry of Petroleum and Energy & Enova SF

Goal
The goal of the programme was to achieve a permanently reduced dependency on electricity for heating in the household sector in Norway, either by introducing new alternative heating technology (pellet, heat pumps) or by using electricity more efficiently (steering system). No clear quantitative goals were formulated.

Target group
Households with high heating needs, and with predominantly electric heating.

www.enova.no
http://tilskudd2006.enova.no/

Even Bjornstad,
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CONTEXT

The winter of 2002/03 was dry and cold, and the electricity prices in Scandinavia rose to high levels. In Norway this triggered a heated debate on the effect of this price rise, especially the cost increases for low income households. This put pressure on politicians to act. As a result, the parliament introduced and financed a programme to support (subsidise) electricity-saving heating technologies for households.

ABSTRACT

Technologies supported during the programme were air-to-air heat pumps, pellet stoves and steering systems for electric panel heaters; all technologies were able to reduce consumption of electricity used for heating. A 20 % subsidy was granted to the households investing in these technologies. Around 20,000 households received a subsidy. 92.1 % of the households had installed heat pumps, 6.2 % pellet stoves and only 1.7 % installed steering systems.
Households could apply for the grant by ordinary mail or electronically through Enova's internet site. Information regarding the application was obtained mainly from Enova's web site and Enova's telephone helpline. In the application phase, households were advised that investment was not recommended if their electricity consumption was low (too little savings potential to repay investment). Also technical restrictions were tied to the different technologies. When the application was registered by Enova, the households received a letter saying that the application was approved. In order to receive the money, the household had to document that the investment had been made, and that it was installed by an approved technician.
An important part of the cooperation with the technology supplier organisations was the physical availability of the relevant technologies in the stores.
A follow-up programme was undertaken in 2006 and is still running (Autumn 2008).

CONCLUSIONS

Although the goals of the programme were not specified quantitatively, it was considered quite successful. First, the programme spent more than was originally budgeted. Second, significant electricity savings were documented (5,333 kWh/yr per household on average), and third, a large majority of the households were satisfied with the investment.

- Easy application procedure.
- Unambiguous specifications regarding the technologies that were supported.
- Few technical problems with the chosen technologies.
- The most suitable segment was addressed (larger homes).
- Helped establish the market for heat pumps (to a lesser degree pellet stoves).

- One-shot subsidy programme can be disruptive to market.
- Less serious market actors pop up to skim market.
- Possible problems with market distortion (supported vs. unsupported technologies).

RESULTS

Achieved significant electricity savings in participating households, air-to-air heat pumps established in mainstream market.

NL2 MEASURING IS KNOWING

PROMOTER
Milieu Centraal

Goal
Raising awareness about energy consumption and measures for reduction

Target group
Households

www.lage-energierekening.nl

Puk van Meegeren,
Puk.van.meegeren@milieucentraal.nl

CONTEXT

The campaign was introduced in part of the Netherlands in the period 2005-2007. The main source of funding was the Ministry of Spatial Planning, Environment and Housing. Partners in the campaign were NUON (Dutch utility company) and two Dutch provinces.

ABSTRACT

The core of the campaign was a digital plug-in energy metering device with which the consumer can monitor the energy use of his household appliances. The campaign was based on studies that indicated that feedback, combined with goal setting, is very effective. Energy use for heating is the largest part. Households kept the metering device for three weeks and then gave it to another household. The people were reached by the website of Milieu Centraal and their helpdesk, by articles in news media and by advertising material. The website contains also all kinds of information on how to save energy in homes.

CONCLUSIONS

The campaign was successful with a relatively small budget: 35,000 households joined the project and were motivated to take action.

- The method was simple and the period of the campaign was short.
- The campaign used an evidence-based mechanism.
- Channels used to reach the target group (the Internet and mass media) worked well.
- Good cooperation with the utility.

- In a number of cases households were unable to find a next relay partner.
- For some households the device was complicated to handle.
- No follow up activities were developed.

RESULTS

90% of the interviewed participants agreed with the statement that they gained more insight in the energy use of appliances. About 65% stated that they had taken energy saving measures as a result of the use of the energy meter. The average number of metered appliances was 6. Measures were: diminished use of standby of TV, stereo equipment and computers, replacing light bulbs with HE (30%). Other actions were: replacing freezers by A-labels and drying laundry outside instead of in the machine. The average use of electricity per household was 3,350 kWh per year. Per household the average reduction was 250 kWh, equal to 7% of annual consumption or a savings of € 50. The relay lasted four to five times.

PRELIMINARY RESEARCH

- Feedback studies
- Analysis of households

EVALUATION

Households that applied for a metering device were registered, and after the project a small-scale Internet-based evaluation took place (N=100-150).

NL3 ELECTRONIC FEED-BACK AND GOAL SETTING

PROMOTER
OBRAGAS former Dutch Utility Company

Goal
To reduce energy consumption by providing feedback in combination with a personal saving objective of 5, 10 or 15% of the household energy consumption

Target group
Households

@
Cees Egmond,
c.egmond@senternovem.nl

CONTEXT

This project was developed as a field experiment to contribute to a study on saving effects of feedback in combination with goal-setting. It was funded by the local utility, the university and the Dutch Ministry of Economic Affairs and GaTec Technology bv.

ABSTRACT

The action consisted of an experiment in sixty two households within an energy efficient new housing development in a small Dutch village in the period of 2000-2002. The households were provided with weekly feedback on their use of gas, electricity and water by means of a personalised text page on TV. The estimated annual consumption was shown, based on the characteristics of the house and the consumption level of the households in the previous month. They were compared with the target level and smiles/frowns were shown when the difference was more than 3%. Prompts were provided with information on simple, concrete saving measures. The utility company analysed the data and sent the feedback.

CONCLUSIONS

The study proves again that feedback combined with a personal objective is a strong motivator for households to take energy measures. The experiment dates from 2002 and today the Internet would probably be used for such an action.

- Clear focus and objective.
- Segmentation of the target group.
- Strong cooperation from intermediary organisations.

- Positive feedback works; negative feedback de-motivates people.
- It is unclear if the effect is sustained.
- More study is needed to involve less motivated people.
- The field setting of this experimental study caused some technical problems.

RESULTS

The goal was reached, the field experiment gave relevant information about the use and effects of feedback and goal setting. The conservation figures were about 10%.

PRELIMINARY RESEARCH

- Studies on the impact of feedback mechanisms.
- Study on the preferred presentation method for the feedback.

EVALUATION

Structured questionnaires, meter readings and face-to-face interviews were used to collect data on energy and water consumption; evaluation of the information pages and applied changes in behaviour. Also the utility company records of household energy consumption in the past were used.

NL9 DUTCH ECO-DRIVING

PROMOTER
SenterNovem

Goal
The programme aims to reduce CO_2 emissions through behavioural change of individual vehicle-users and fleet-owners. For 2010 the programme aims to avoid 1.5 Mton CO_2 emissions. For this, 50% of licensed drivers need to practice Eco-Driving methods.

Target group
Consumers – car drivers

http:///www.hetnieuwerijden.nl

Peter Wilbers,
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CONTEXT

There has been an eco-driving programme in the Netherlands since 1988 that changes every few years. The activities were intensified after Kyoto within the framework of the Dutch climate policy. The current programme is running from 2006 to 2010. The programme is funded by the Dutch ministries of Transport and Housing.

ABSTRACT

The programme consists of several projects to influence the driving style of car drivers, including activities such as communication, maintaining a network, international activities and monitoring and evaluation. Experience and demonstration activities performed by the intermediary organisations are the main activities; support is provided by mass media communication.

CONCLUSIONS

The effect of the programme rose from 0.04 Mton in 2000 to 0.32 Mton in 2006. Governmental costs are around 7 euros/ton (6-8 euros/ton, depending on the activities in a year), in total $2.5.10^6$ (million) euros in 2006.

- Clear focus and strong message: 10% fuel saving.
- Differentiated target groups and customised channels.
- Many intermediary organisations that function as reliable senders.
- Use of a variety of facilities: simulators, training programmes, give-aways, media etc.
- Setting up a solid evaluation and monitoring system from the start, but not too thoroughly.
- International exchange of knowledge and experiences.

- This programme can only be carried out within a long term programme and with a large budget.

RESULTS

The Eco-Driving simulator and Virtual Trainer have an effectivity of 13%; the courses at the driving schools have an effectivity of 35%. Based on earlier research it is estimated that 90% of the training has a sustained effect. The sustained effect of in-car devices is 75% or 30 litres gasoline=72 kg CO_2=1GJoule
50% of the respondents are familiar with CO_2 compensation. 1% already compensates; 15% will certainly do so; 40% probably will do so/don't know and 44% will probably not. Familiarity with the Eco-Driving Programme diminishes the number of 'don't know ' answers. 27% of the people check their tire pressure every month.
Car purchase (A and B labels get a fiscal discount) respondents paid attention to the energy label when they bought a car (24%), whether the CO_2 emissions (16%) and fuel use (37%) played a role. 28% of the respondents didn't pay attention to any of these items.

PRELIMINARY RESEARCH

Segmentation study

EVALUATION

1) With telephone surveys among 1,000 drivers each year;
2) All the specific activities of the intermediary network partners are monitored . The participation rate, the actual change in behaviour of participating persons and the reduction rates of CO_2 emissions by changing driving style and purchase behaviour. Investigated in the surveys are the familiarity with the programme, possession of in-car devices and driving with regard to the Eco-Driving elements and behavioural changes, use of CO_2 compensation and purchase behaviour.
Also monitored are the viewing/listening rates of TV and radio spots, Internet hits, circulation rates of newspapers and magazines with adverts or articles about Eco-Driving, number of visitors at conferences, local days etcetera where the programme was presented; the source of the knowledge about the programme (newspaper, Internet, advertisements, folders, training, driving schools, acquaintances, shows and exhibitions), and through which organisation this was. Reasons for not applying the Eco-Driving tips were unfamiliarity, difficulty of application or understanding, one prefers to drive faster and saving petrol is not very interesting. Possession of in-car devices was 38% in 2006. The above mentioned results depend on the familiarity with the programme.

NL11 ENERGYBOX

PROMOTER
SenterNovem

Goal
Providing 10,000 households with a free energy box, leading to 10% saving

Target group
Households

@
Paul van de Laar,
p.van.de.laar@senternovem.nl

CONTEXT

The Energy Box was an initiative by Greenpeace, supported by the ministry of VROM (Housing, Spatial Planning and Environment). It was intended to achieve a change in small investment behaviour of households in order to save energy and CO_2 emissions and increase the experience with energy saving products, in pilot projects to see whether the approach works and whether it can be used on a national scale.

ABSTRACT

The pilot of the Energy Box consists of a list of twenty five products, out of which ten products (worth 100 euros) can be ordered for free. This ordering can be done by normal mail or digitally (small investments behaviour). The products on the list are several types of energy saving light bulbs, mail box draught proofing, foil for radiators, draught-proof strips and thermo tape, door springs, stand-by killers for PC and TV, water-saving shower head and water flow reducers. The households received a letter and a catalogue with a list of the products and information about energy savings, payback time, CO_2 saving and how the products work. With this they could order an Energy Box. The project ran in 2006.

CONCLUSIONS

In the municipality 69% of the households ordered an Energy Box, and 34% of the energy company's customers, but these did not receive reminders, whereas in the municipality reminders were sent. Also, in the municipality the introduction of the Energy Box was accompanied with a PR-campaign through the local media, which could explain the higher participation.
One-third of the respondents ordered because of curiosity, one-fourth because they needed the products. Other reasons were because it was free, it would be a waste to let it go. Respondents did not order because they forgot or ordered too late. More than half of the products were actually used, and up to 20% of the energy saving light bulbs were stored. 60% of the respondents reported that their attitude towards energy saving became more positive after ordering the Energy Box. However, detailed measurement of attitude components, energy saving behaviours and the intention to behave in a more energy friendly fashion in the future did not show much change.

- Clear focus and objectives.
- Relatively simple products and clear sender.
- Segmentation of target groups and proper channels.
- Using the curiosity of people.

- It was not entirely clear that the box was for free and without further obligation.
- 20% of the households replaced energy low light bulbs with new ones.
- Some of the products (standby killers) were not functioning properly.
- Some procedures were difficult because of the organisational setting.

RESULTS

The Energy Box not only facilitates small investments behaviour but also eliminates 1) prejudices against energy saving products, 2) unfamiliarity with products, 3) unfamiliarity with energy use and costs of aspects such as lighting.

PRELIMINARY RESEARCH

- Preceding study for the biggest possible 'average household' to reach as many households as possible. Two marketing agencies were involved.

EVALUATION

The evaluation was done by quantitative questionnaire via the Internet. This led to a high response rate of the households, but a smaller sample with door-to-door or telephone surveys probably gives a less biased sample. On the other hand, online questionnaires are user-friendly, cost-effective and 70% of the households have access to the Internet.

NL12 ENERGY SURVIVAL

PROMOTER
SenterNovem and KRO broadcast company

Goal
The goal was to increase environmental and energy awareness of children and through this to stimulate the energy-saving behaviour of parents.

Target group
Children between 10 and 12 years of age

www.cinekid.nl

Henk van Elburg,
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CONTEXT

The Ministry of Economic Affairs funded this programme. It is based on the Norwegian project '*Rainmakers*'. The concept was adapted to the Dutch situation.

ABSTRACT

Energy Survival aimed to increase 1) knowledge about energy, 2) awareness of energy and energy saving, and 3) involvement with energy and energy saving behaviour; the components of an attitudinal change which could lead to energy saving behaviour.
The field of activities was routine behaviours.
The target audience was children 8-12 years old and their parents. The campaign used a TV programme, based on the Norwegian equivalent '*Energikampen*', a website, and an educational school programme in combination with local energy events.

CONCLUSIONS

After two seasons of broadcasting, the viewers showed differences in knowledge and attitude compared to the non-viewers (see above). Behavioural change was not yet visible in the total target group, but is expected to follow the knowledge and attitude changes; for behavioural change more time might be required. During the seasons, the familiarity with the programme increased, as well as the number of viewers (up to 26% of the children in the target group). The viewing figures (ratings) fluctuated whereas the number of programmes watched per child declined a little in the second season. All in all, the project was considered a success and is still running.

- A low-interest topic was turned into an exciting subject for the target group.
- Build up from 5 schools to contests at the national level.
- The project was taken over by the market.

- More attention should be given to actual behaviour change in households.

RESULTS

A quarter of the children in the age group saw at least one of the seven episodes. Several attitudinal changes were found (thinking more about energy; understanding energy better; thinking more often that energy is important; knowing better what renewable energy is made of; more children associate 'car', 'light bulb', 'TV' more with energy) in children who watched the TV programmes compared to children who did not watch the TV programmes. The viewers thought that the programmes were exciting and fun to watch. Parents who saw the programmes think more often about buying green electricity; tell their children to turn off the light; turn off the light more often; and turn off the tap while brushing teeth (self-perception). Children who saw the programmes talk more about energy and turn off the tap while brushing teeth, turn off the lights more often and take shorter showers (self-perception). It seems that watching the programmes makes the family talk about energy and in this way affects the awareness about energy saving behaviour positively.

PRELIMINARY RESEARCH

- Life style studies among youth.
- No measurement among the target group for knowledge and awareness.

EVALUATION

Ongoing evaluation is taking place.

S1 DON´T DRINK AND DRIVE

PROMOTER
SNRA – Swedish National Road Administration

Goal
To make youngsters aware of the risks of alcohol and drunken driving and to influence their behaviour and attitudes in traffic

Target group
Youngsters (15-24 years of age)

@
Kenneth Asp,
Kenneth.asp@
energimyndigheten.se

CONTEXT

The overall goal for safe traffic set up by the Swedish Parliament is to reduce the number of killed and injured in traffic accidents (in accordance with the policy called "*Vision Zero*"). Alcohol and Driving is a large societal cost which kills, injures and destroys young people's lives and/or future.

ABSTRACT

The campaign Don´t Drink & Drive aims at making young people aware of the risks of drinking and driving. One aim is to stop a behaviour of lack of respect, to save lives and prevent accidents which can lead to lifelong handicaps and damages. Is it worth, driving drunk considering the consequences? So the campaign is built upon strong emotional messages, combined with information on the law on using alcohol/drugs while driving and also about the enforcement by the police against drinking and driving. The activities encompass close cooperation between a number of societal organisations – rescue service, police, sports organisations etc. The messages are delivered via specially produced films, exhibitions and lectures where real traffic victims are acting. The aim of this is to get the audience to reflect upon the risks and consequences of alcohol and driving.

› The campaign had a strong level of attention from young people and was perceived as positive. 40% of the people that paid attention to the campaign believed that it will influence young people's behaviour to a great extent.
› In the first year of the campaign 65 % of the target group had observed the campaign and after one more year this had risen so that 83% of the target group had taken notice of the campaign. A substantial part of the increase was probably due to increased TV-information. This conclusion cannot however be fully verified.
› A strong contribution to the success was the fact that young people (15-24) were invited and directly involved in both the planning and implementation phase.

› No specific objectives were set beforehand.

RESULTS

Very high attention to the campaign was reached within the target group, although there were no quantitative goals set up by the programme.

EVALUATION

The National Road Administration monitored the programme activities.
Telephone interviews in conjunction with the campaign activities were the most common method used.

S4 "THE SWAN" LABEL - LABELLING OF ENVIRONMENTAL FRIENDLY PRODUCTS IN NORDIC COUNTRIES

PROMOTER

NMN - Nordic Eco-labelling Board

Goal

Influence consumers to buy environmentally friendly products. Demand for knowledge on products, environmental adaptation and to achieve behaviour effects to impact consumer behaviour in choosing environmental friendly products.

Target group

All consumers/citizens

www.svanen.nu

svanen@svanen.nu

CONTEXT

The Swan is the official Nordic Eco-label, introduced by the Council of Ministers from Iceland, Denmark, Norway, Finland and Sweden. Nordic Eco-labelling is assigned to promote a more sustainable consumerism with the goal of creating a sustainable society.

ABSTRACT

Interest in environmental issues increased during the 1980s. To satisfy the demand for information on the environmental quality of products by an impartial environmental symbol upon which people can rely. The Nordic Council of Ministers decided in 1989 to introduce a common, official environmental label in the Nordic countries. The Swan was chosen as a symbol. It is a variation on the logo of the Nordic Council of Ministers.
It is a voluntary license system where the applicant agrees to follow a certain set of criteria, outlined by the Nordic Eco-labelling in cooperation with stakeholders. These criteria include environmental, quality and health arguments. The criteria levels promote products and services belonging to the most environmentally sound and take into account factors such as free trade and proportionality (cost vs. benefits). The Nordic Ecolabel now covers 67 different product groups, for which it is felt that ecolabelling is needed and will be beneficial. These days, everything from washing-up liquid to furniture and hotels can carry the Swan label. The Swan checks that products fulfil certain criteria using methods such as samples from independent laboratories, certificates and control visits.

CONCLUSIONS

The Swan label is well-known. 67 % of people in the Nordic countries understand the Swan. The label is a cost-efficient way of communicating that a company takes responsibility for the environment through environmentally-friendly products.

- The Swan Label has a high confidence among the citizens of the Nordic countries. For producers it is easy to promote the environmental performance of products with the help of the well-known symbol. All they need to do is display the Swan in the marketing material.

- The information value of the label is perceived to be rather low by the customers.
- Once the licence has been granted, there is an annual charge based on the company's turnover for the products carrying the Swan label to which the licence applies.

RESULTS

77 % of Swedes consider that the Swan makes a brand extremely reliable.

EVALUATION

Criteria documents are reviewed every three years.

S5 HEATING IN VILLA

PROMOTER

STEM - National Swedish Energy Agency

Goal

Raise knowledge and awareness of sustainable forms of heating of villas in Sweden aimed at the "villa population". The additional goal was to promote the free services of the professional local energy advisors in communities/cities.

Target group

Concerned villa population that might need to shift their heating system in the coming decade (these represent approx 70% of all 1.2 million villas in Sweden). Also minor real estate owners and local politicians and local decision makers.

www.stem.se

Arne Anderssonn, arne.anderssonn@ergimyndigheten.se

ABSTRACT

The Heating in Villa campaign has consisted of a variety of activities, large and small, at primarily local level and as a support to existing networks. Examples:

- Seminars and lectures on sustainable heating methods.
- Demonstrations on products for sustainable heating, especially renewables.
- Brochures, literature.
- Sponsored local events like competitions on the heating/environment problems etc.

CONCLUSIONS

Increased knowledge on renewable possibilities.

- Good timing as Sweden started a new system for local energy advisors and regional energy organisations.
- Strong local activity.
- Increased the credibility of the National Swedish Energy Agency, as the agency was rather unknown among the public.

- Lack of personal resources from the National Swedish Energy Agency. This lead to an extended external consultant activity which in the end gave the agency weak technology and competence transfer to strengthen the in-house competence.
- The campaign was aimed only towards individuals and villa owners, which is a limited group of energy users in the country.

RESULTS

Exhibition/Fairs/Road shows in ninety cities in Sweden. Participation in an annual Fair on Housing and Living gathered 30,000 visitors to the campaign exhibition.

EVALUATION

Both qualitative and quantitative evaluation of the monitoring of the campaign and process. The effect was not evaluated.

S6 THE SWEDISH CLIMATE CAMPAIGN

PROMOTER
Swedish Environmental Protection Agency

Goal
Increased knowledge of the causes of the accelerating greenhouse effect (focussing on emissions of carbon dioxide by man). Increased knowledge of the effects that the accelerating greenhouse emissions can have, based on the conclusions of the IPCC. Increased knowledge of and changed attitude towards the amount of influence the individual can have on reducing the emission of greenhouse gases.

Target group
The target group is the population of Sweden, which is around nine million people.

www.naturvardsverket.se

Info@naturvardsverket.se

CONTEXT

The Swedish climate strategy from 2001 proposed that an initiative be undertaken to provide information in collaboration with public authorities, local councils, schools/educational establishments, trade and industry and voluntary organisations.

ABSTRACT

The aim of Sweden's climate strategy is to reduce Sweden's emissions of greenhouse gases, as they are defined in the Kyoto Protocol, by an average of four percent for the period 2008–2012 as compared with 1990. The reduction is to be achieved without compensation for absorption by natural carbon sinks or flexible mechanisms. The aim is to reduce Sweden's emissions by half by the year 2050 as compared with 1990.

CONCLUSIONS

The overall conclusions obtained from the analysis (August 2002) were:

- The climate issue is complex and difficult to understand and therefore causes a lot of uncertainty amongst the Swedish population.
- Society faces many threats, which are more imminent in terms of timescale than climate change, and this means that people find it difficult to take an active interest in something such as climate change, which seems to lie so far in the future.

- The climate campaign's project team spent six months undertaking the research, analysis and strategy work necessary for creating the solid foundations for a successful campaign. Around 15 research studies formed the basis of the analysis describing the campaign's starting point. Research studies which had already been carried out were also used.
- It was initially proposed that the initiative should last for a three-year period, 2002–2004, with a budget of 3.3 million euros per year. The government bill of 2003 withdrew the final year's funding, and the campaign has therefore been run over a two-year period, 2002–2003.

RESULTS

The Swedish people have become more knowledgeable about the causes of the accelerating greenhouse effect.
The Swedish people have become more knowledgeable about which consequences an accelerating greenhouse effect might have.
The Swedish people have become more knowledgeable about what each individual can do to reduce emissions of greenhouse gases, and their attitude towards the issue has changed as well.
The majority of Swedes were in favour of state control as regards the restriction of carbon dioxide emissions.
The credibility of the Swedish Environmental Protection Agency as regards the climate issue has increased.

EVALUATION

An extensive survey was undertaken in November 2002, involving interviews with 2,000 people selected at random, to measure the level of knowledge of the Swedish people. An identical survey was carried out in November 2003 to see whether people had become more knowledgeable during the period when the climate campaign carried out a variety of activities.

S7 WOODEN PELLET HEATING – FUTURE HEATING

PROMOTER
STEM - National Swedish Energy Agency

Goal
To make industries, local energy advisors and citizens aware of the wooden pellet-option as a renewable energy source for heating and cooling, and to create long term strategic co-operation with stakeholders involved.

Target group
500,000 people
People living in villas, local energy advisors and pellet industries.

www.stem.se

Arne Anderssonn,
arne.anderssonn@
ergimyndigheten.se

CONTEXT

Wooden pellets are one of the options to transform the Swedish energy system towards a sustainable system.

ABSTRACT

The campaign on wooden pellet heating consisted of a variety of activities, such as organising national and local Pellet Days, giving advice and education at national and local level and support to existing networks.

CONCLUSIONS

A good campaign with a focus on a small niche in the population, which in the end lead to an increase in the share of use of renewable energy.

The effects on employment in rural areas are positive with this type of campaign for a niche market.

› Reference groups covering the whole country, with all concerned branches represented like pellets, solar, installation people, manufacturers of energy technology, branch organisations.
› The knowledge transfer between the participating groups was very good. This lead to a higher awareness of good holistic solutions of the energy problem.
› All regional energy institutions were engaged in the campaign and its execution.

› Timing: shortly after the start of the campaign, a substitution from the government to install wooden pellets heating, which in the second part of the campaign ran out of money. This decreased the effect of the campaign.
› Operating as a united project team proved to be difficult sometimes. Roles and responsibilities of all partners should be clearly defined.

RESULTS

The use of wooden pellets for heating has increased.
Technology transfer between the participating partners of the campaign led to increased awareness of the pellets advantages as a future renewable energy source.

UK1 ADVERTISING CAMPAIGN 2006/07

PROMOTER
EST - Energy Saving Trust

Goal
To direct customers to the EST MY HOME website, build awareness of the EST brand and reduce carbon emissions

Target group
Consumers and householders

www.energysavingtrust.org.uk

Brian Samuel,
brian.samuel@est.org.uk

CONTEXT

The primary purpose of our national advertising and promotional work for energy efficiency is to generate awareness of the importance of saving energy and thereby reduce carbon emissions. It aims to inspire people to adopt a more energy efficient lifestyle, promote our website and the services of our national chain of advice centres as the places to go for free, independent expert advice.

ABSTRACT

The main goal is to move people along the behavioural change chain. In the context of sustainable energy, this is changes to purchasing or routine behaviour. We engaged and informed citizens about how they can live lower carbon lifestyles and the advice we gave covered domestic energy efficiency, micro-generation and transport for consumers. A customer segmentation model was used to focus our activity on priority audiences who are defined as having the most positive attitude to messages about the environment and having the highest potential to save carbon through their choices. The evaluation of advertising and PR material in 2006/07 is based on a refinement of a methodology used in previous years. Comprehensive market research through quantitative customer surveys was used to assess our effectiveness. The key strength of the activity is the underpinning stakeholder analysis and strategic approach taken in developing activities that is accompanied by detailed evaluation to improve performance year on year. In our view the goal of the programme has been achieved with the level of savings improving on previous years despite a more rigorous methodology being employed.

CONCLUSIONS

The advertising and PR campaign was considered as an overall success by EST as it has managed to engage with a greater number of householders than in 2005/06 and increase its cost effectiveness. The key success factor for replication elsewhere is to identify the best opportunity at the right time to influence action by the target audience and move quickly to deliver. It is also essential to have:

- Detailed understanding of the target audience.
- Access to a variety of delivery channels and identification of the best way to reach the target audience.
- An understanding of the size and capacity of the supply chain to deliver on specific actions

Our ongoing consumer campaign work continuously learns from the results of previous campaigns to raise awareness around energy efficiency and promote actions which consumers can take to save energy.

- Co-sponsorship proved very successful in generating awareness of EST and should be replicated.
- Awareness of other non co-sponsoring key elements of the advertising and PR campaign has been successful in improving the number of households that EST engages with. Some executions have worked better than others.

- More work is required to be undertaken in co-ordination with the devolved offices of Scotland and Wales to improve the proportion of website visitors coming from these regions.
- A metric needs to be identified for planned actions for the sample of the general public and the web.
- Currently, market data is only available for around 50% of the measures that EST provides advice on and in some cases the data we do have is not particularly robust.

RESULTS

EST's Advertising and PR reached 6.8 million household customers in 2006/07. Lifetime C savings were 1,123 KtC and annual C savings were 197 KtC/pa.

- Of all consumer channels, advertising and PR remains dominant for annual savings (61%) although lifetime savings are lower than those from the web and our advice centres as the majority of actions undertaken as a result of the advertising and PR campaign are behavioural.
- Awareness of the EST by the general public is 32% and higher than 2005/06.
- The lifetime cost effectiveness of the programme was assessed to be £3.2 tC.

UK1

PRELIMINARY RESEARCH

Previous advertising and PR evaluation plus consumer market research, research and development of detailed segmentation model to help target messages/consumers.

EVALUATION

The evaluation of advertising and PR material in the 2006/07 financial year is based on a refinement of a methodology used in previous years which has lead to increasingly robust results, although a number of uncertainties still remain. The carbon saving impact is assessed through quantitative customer surveys of the general public. The sample is structured so that half those interviewed had bought a kitchen appliance in the last twelve months but this over-representation is then corrected at the analysis stage. The survey is undertaken sometime after the consumer has received advice from the EST. For advertising and PR this is between one to four months as some actions take considerable time to enact and we want to ensure we capture as many as possible. Different size dwellings and varying fuel mixes are taken into account, although no account is currently made of planned actions. Market data for the installation of various energy saving measures is collected and is compared to the claimed number of installations after the results of the sample are grossed up to the population.

UK3 ENERGY SAVING TRUST ENERGY EFFICIENCY ADVICE CENTRE (EEAC)

PROMOTER

EST - Energy Saving Trust

Goal
To reduce carbon emissions

Target group
Consumers and households

http://www.energysavingtrust.org.uk/content/view/full/368

Brian Samuel,

brian.samuel@est.org.uk

CONTEXT

The EEACs were established over 10 years ago as a UK wide advice network to help consumers become more energy efficient and thereby reduce their carbon emissions.

ABSTRACT

Householders can access the service via a single free-phone number that automatically connects them to their local centre. The main goal is to move people along the behavioural change chain, in the context of sustainable energy this is changes to purchasing or routine behaviour. The EEACs engage with householders in some of the following key ways: completion by the client of a Home Energy Check (HEC) report; face to face advice; stands at local events; home visits for householders with particular needs; direct mailings to new and existing customers and by providing training to frontline staff. As well as giving advice EEACs pro-actively raise customer awareness of domestic energy consumption issues and form local strategic partnerships with key organisations to optimise outreach. Through our customer segmentation model we focus activity on our priority audiences, delivering tailor-made messages that are most likely to result in action. We employ comprehensive market research through a quarterly tracker and 'Green Barometer' survey to assess the effectiveness of our national activity and to improve the understanding of the UK population. The key strength of our EEAC activity has been the underpinning stakeholder analysis and strategic approach taken in developing activities.

CONCLUSIONS

The EEACs are considered to be successful as they are very cost effective and every year they are responsible for over 750,000 householders saving carbon. The EEACs have evolved over several years and there have been many lessons learnt along the way which have been built upon to improve overall performance and this will be built upon by transforming the EEACs into a Sustainable Energy Network (SEN). Key success factors for replication elsewhere in Europe include:

- Clear performance targets with monitoring and reporting against those targets.
- Providing a high level of accuracy and consistency in the advice messages being given to customers.
- Finding competent, motivated organisations to provide the service.
- Driving customers to take action on the back of advice whilst maintaining impartiality.
- Meeting the diverse needs of all regions.

UK3

However, we have identified requirements to raise the capacity to reach a larger audience, to integrate the emerging wider sustainable energy agenda and to streamline the customer experience. Overall we would advocate the introduction of a SEN (Sustainable Energy Network) type approach as opposed to a national EEAC chain.

- Three EEAC regions have performed very well in the first half of 2006/07. It is intended that the reasons for this high performance be fed back to the centres.
- The EEACs are one of the UK's most cost effective energy saving programmes.

- EEAC lifetime savings have fallen against 2005/06 results
- A fifth of the customers do not remember receiving a report back. If EEACs tell customers they can expect a report they are more likely to remember receiving it and this area needs to be improved.
- Some EEACs didn't perform as well as others, discussions have been initiated with these.

RESULTS

The EEAC network reached 855,498 customers in 2006/07. On a lifetime basis carbon savings were 1064 KtC and 47 KtC/pa on an annual basis.

- EEAC lifetime savings have fallen against 2005/06 due to a lower incidence of cavity wall insulation and virgin loft insulation attribution, which have greater longevity than other measures.
- A significant amount of cavity potential remains across the UK suggesting that this focus can continue for sometime
- A number of EEAC regions perform better than the EEAC average and two have performed significantly below the average, both have a low incidence of cavity fill and loft insulation jobs.

The policy cost to achieve the carbon saving was £7,615,000 and so the lifetime cost effectiveness of the programme was £7.2 tC. Satisfaction questions are also included in the evaluation survey of customers and overall 78% of EEAC customers rate the quality of the advice as good or better.

PRELIMINARY RESEARCH

As the EEACs are a long-term ongoing programme that has been refined over many years, the initial preparatory phase is outdated and no longer relevant. Annual evaluation is undertaken and recommendations enacted.

EVALUATION

The carbon saving impact is assessed through quantitative customer surveys. We use the customer details recorded on a database in order to then produce a sample for survey. A representative sample is taken of the population of the audience concerned. For the EEACs, the size of the offices and the number of customers in contact with the EEACs each month is taken into account and is reflective of the proportion of customers advised verbally and those advised through a HEC report. Each action that is assessed has an energy, carbon and lifetime saving attached to it. Whether the individual has a large or small property, and the varying fuel mixes are also taken into account. The survey is undertaken five to six months after the contact with EST took place to allow the respondent time as some take considerable time to enact and we want to make sure we capture as many of these as possible. These are then grossed up to the whole of the population from which the sample has been taken.

UK5 SCOTTISH ECO-DRIVING

PROMOTER
EST - Energy Saving Trust

Goal
To reduce carbon emissions through increasing the awareness of eco-driving

Target group
Consumers

http://www.energysavingtrust.org.uk/What-can-I-do-today/Smarter-driving

David Kenington,
david.kenington@est.org.uk

CONTEXT

The primary objective was to seek to encourage drivers to reduce emissions from their cars by using eco-driving techniques using the central belt of Scotland as a test area, mainly targeting people commuting into the two largest Scottish cities of Glasgow and Edinburgh.

ABSTRACT

The programme aimed to change routine driving behaviour through a campaign to raise awareness of the benefits of eco-driving. Commuters were identified as the core audience for eco-driving as they were likely to be most receptive to our messages since they will directly benefit eco-driving. The media channels utilised to reach the target group were: billboard advertising; drive time local radio; local press advertising and online coverage, and a radio based PR campaign. The campaign lasted two weeks during which the number for the Scottish Energy Efficiency Advice Centres (EEACs) and a website were advertised. The Scottish EEAC advisors were trained to deliver advice to people responding to the campaign. The success of the campaign was assessed through a variety of surveys and it was found that there was a doubling of awareness (15% to 34%) of the concept of eco-driving from the pre to post survey, but the carbon saving impact was low. This was due to it being a small two week campaign, which was primarily designed to raise awareness of eco-driving. The campaign was considered a success as it delivered an increase in awareness of eco-driving and also delivered a good carbon saving from respondents to the campaign.

CONCLUSIONS

The campaign was considered a success and the goal of the programme was achieved as there was an increase in awareness of eco-driving which led to carbon savings. Critical to success of the project was to ensure that the target audience was well-understood and that the best routes to engage and influence that audience were identified and implemented. This project found, although posters were recalled most often, it was radio ads that drove responses, indicating that a mix of both was well placed. A good level of behavioural response was also found in respondents who had read about the eco-driving tips. Responses to the campaign increased significantly towards the end of the two weeks indicating that increasing the length would have driven a larger response. It is recommended that any replications increase the length and breadth of the campaign period and, as there is an engaged audience, the inclusion of other energy saving consumer transport advice which delivers higher potential carbon savings (e.g. vehicle purchase advice) should be considered to achieve greater impact. They should also ensure that the target audience is well-understood.

- The campaign was clear in its objectives, and was successful in terms of raising awareness with regard to eco-driving.
- Respondents to the campaign demonstrated a good level of behavioural change attributed to the campaign, resulting in good carbon savings per respondents.
- Particularly good awareness found after the campaign in Edinburgh (44%) and amongst 26-35s (49%).
- The target audience was well-understood and the advisors were well trained and aware of their target audience's requirements.

- The numbers of respondents were low, mainly as this was only a two week pilot campaign, therefore the actual carbon saving impact was also low (see results below for C savings).
- A longer and wider campaign is likely to have been more effective.

RESULTS

- The campaign achieved a 2% saving of the total annual carbon emissions of the individuals' vehicles excluding respondents who accessed all the information available on the website.

UK5

› There was a doubling of awareness (15% to 34%) of the concept of eco-driving from pre to post survey.
› 261 people telephoned the EEAC network during the campaign, which resulted in a carbon saving of 4.85 tC/a. Considering that if all eco-driving behaviours were applied, the saving would be 8.7% this represents a good conversion to action ratio
› The C saving does not include the responders who accessed the website, of which there were more than 2,200.

PRELIMINARY RESEARCH

Background research was carried out to find out about consumer attitudes towards transport and climate change and also to look at Scottish attitudes to energy efficiency and motoring behaviour to help target messages/drivers.

EVALUATION

The carbon saving impact and changes in awareness and understanding of the term 'eco-driving' were assessed through quantitative customer surveys. Three surveys took place as part of the campaign evaluation: an on-street questionnaire of commuter drivers prior to the campaign and one a short time after the campaign and a telephone survey of individuals who responded to the campaign by telephoning the EEACs – previously the EEACs were instructed to keep contact details of responding individuals on a separate database for this reason. Each energy saving behaviour has an energy saving, C saving and lifetime saving attached to it. The interviewees were assessed to determine if energy saving actions undertaken were due to advice from the eco-driving campaign and the survey results were then grossed up to the total number of individuals responding to the campaign through the EEACs.

UK9 SUSTAINABLE ENERGY NETWORK (SEN) – NOW KNOWN AS THE GREEN HOMES SERVICE.

PROMOTER
EST- Energy Saving Trust

Goal
To deliver more advice to more customers than the previous Energy Efficiency Advice Centres (EEACs) and in turn save more C whist matching the EEAC level of cost effectiveness.

Target group
Consumers and households

http://www.energysavingtrust.org.uk/Help-and-support

Brian Samuel,
Brian.Samuel@est.org.uk

CONTEXT

EST had a number of national EEACs that delivered advice on energy efficiency. This programme aimed to test if C savings could be delivered cost effectively on a larger scale through an evolution of the EEACs to Energy Saving Trust Advice Centres (ESTACs) which would be delivered in the form of a one stop shop to the consumer.

ABSTRACT

Three UK regions were chosen to pilot SEN. The aim was to change consumer purchasing and routine behaviour, and EST's role as an organisation that is expert and trusted and seen to be independent of both commercial and political interests was well suited for this. The SEN pilot, supported by ongoing evaluation of the EEAC network, had five key hypotheses: to save more C through a 'one stop shop' approach; to have a single brand for all SEN activities; to have a structure of effective communication at national, regional and local level; that advice on transport will lead to direct C savings; and offering advice on energy efficiency, renewables and transport together will benefit all three. The ESTACs engaged with householders through a number of ways, developing relationships with local supply chains, businesses, government and communities. Specific consumer groups and houses were targeted using comprehensive segmentation tools that allowed more cost effective delivery.

CONCLUSIONS

Overall, the pilot was a success as more C was saved through an increase in direct advice. Of the five hypotheses the first three mentioned above were exceeded but two were unproven, one of which was due to lack of funding. The ESTACs were most successful when they were clear about the programme objectives, which (energy saving) measures to prioritise and when it was clear that a greater proportion of verbal advice compared to home energy check advice achieved the highest savings. To ensure success in similar programmes there should be: full support from critical stakeholders and funders; clear objectives and deliverables; a balance of control and flexibility of the national brand; integration with proven delivery channels, the use of segmentation tools to target delivery, and robust monitoring and evaluation of performance.

- Regional advice centres can simultaneously provide advice directly to a substantial number of householders.
- Higher C savings delivered across the SEN pilot in 2006/07 compared to the baseline EEAC savings.
- The ESTACs developed and maintained a range of productive stakeholder relationships, working with the supply chain and cross-fertilising ideas between the three centres.
- There is a greater awareness of the EST brand in ESTAC regions.

- Cost effectiveness is initially higher than the EEACs. The delivery of renewable and transport advice was inhibited by lack of transport funding and a restrictive renewables remit. As such the ESTACs did not comprehensively demonstrate they can fully operate as a complete 'one stop shop'.
- Greater development of local long-term strategies or business plans which recognise the need to dig deeper for C savings once the easy pickings have been made is needed.
- The development of the pilot took longer than originally anticipated, and in hindsight, some better guidance and closer control of the planning activities of the SEN pilots might have been helpful.

UK9

RESULTS

› Interim results showed that the ESTAC network reached 211,149 customers in 2006/07 net of overlaps. C savings were 266 KtC (lifetime) and 12 KtC/pa (annual). Customers advised through the ESTACs increased by 2.3 times in 2006/07 whilst lifetime impact increased by 1.5 times against the 2005/06 pilot.
› There is a greater awareness of the EST and EST branded material in the ESTAC regions.
› The ESTACs were most cost effective when they placed greater focus on cavity wall insulation.
› The ESTACs do not yet have major roles in regional renewable initiatives, and hence can't be seen as the authoritative voice for renewables - customer advice is restricted to providing a reactive only service.
› Transport C Savings were 33 tC (lifetime), and 31 tC/a (annual). This is low relative to the total as advice has been provided at a low level due to a lack of significant funding provided for transport to date.
› Customer satisfaction results are mixed and in some areas show a slight reduction from beforehand, which is to be expected in a pilot. Satisfaction amongst the ESTACs key stakeholder group continues to be excellent.
› The Energy Saving Trust advice centres have now received Government funding to be rolled out nationally and also address water and waste in homes.

PRELIMINARY RESEARCH

Previous evidence and evaluation from the EEACs plus consumer market research, research and development of detailed segmentation model.

EVALUATION

The ESTACs were assessed qualitatively and quantitatively to determine C savings, effectiveness of partnership working and regional market data was also analysed. Qualitative operational results were evaluated through interviewing the ESTACs and their stakeholders. Market data for regional cavity wall insulations etc. was compared with regional attributed installations from ESTACs which was measured through surveying a representative sample of the audience as part of the quantitative impact assessment. Each action assessed has an energy (or fuel for transport advice), C and lifetime saving. The interviewees were assessed to ensure energy saving actions were due to ESTAC advice. The survey results were then grossed up to the whole population.

5 Conclusions & recommendations

Advertising and promotional campaigns should be complemented with social marketing activities tailored to inducing behavioural change in target groups.

In this project, we have analysed the theoretical foundations for behavioural change programmes, collected cases of implemented programmes and analysed these to provide practical guidance about the application of the Precede-Procede planning model for behavioural change programmes. We report on crosscutting aspects of implemented programmes, and provide recommendations for policy makers and programme managers to improve the implementation of behavioural change activities.

5.1 Recommendations for policy makers and programme managers

Our analysis of behavioural change projects led to a mixed result: some aspects of the design and implementation of these projects have improved, but other aspects still remain underdeveloped. In this section, we point to some of these aspects, recommending that policy makers and programme managers pay more attention to this while deciding on and implementing projects and programmes.

- Many projects and programmes lack a clear theoretical basis, making it hard to properly assess success and to determine if objectives have been achieved. Furthermore a lot of programmes lack a proper planning and evaluation model, which is essential in order to develop and implement successful change programmes. A model like the Precede-Procede model should be applied when designing, implementing and evaluation programmes.
- Few programmes are based on a good prior analysis of the situation and the factors that determine if behavioural change can occur. Projects and programmes should always be based on such an analysis, even for smaller projects or if time is at a premium.

75 people, 60 cars; 75 people 1 bus.
Source: International Association of Public Transport – UITP (Belgium)

Behavioural change activities are also needed when introducing new regulation or new technology.

- Market segmentation is more common now than in the past, but a more detailed segmentation, allowing for the tailoring of activities to specific segments of a target group, is still underdeveloped. Specific target groups should be carefully selected so that activities can be specifically set for the behavioural changes that are requested of a specific group, rather than sticking with a scattergun approach.

- Many projects and programmes rely disproportionally on advertising and promotional campaigns. While these are a useful element of behavioural change programmes, these hardly ever lead to behavioural change on their own. Advertising and promotional campaigns should be complemented with social marketing activities tailored to inducing behavioural change in target groups.

- Monitoring and evaluation of programmes should be planned from the start, with adequate process and impact indicators and defined ways of measuring these. Too often, evaluations focus on the delivery of programme activities, and more attention should be given to measuring the impacts of activities on target group behaviour.

- Behavioural change activities are also needed when introducing new regulation or new technology. Neither of these operates in a vacuum, and changes in consumer behaviour are almost always needed to reap the full benefits of new legislation or technology. Policy makers are advised to consider the full mix of instruments (legislative, financial, communicative instruments and infrastructural provisions) when introducing new policy.

Metro and regional railway can carry over 50,000 passangers per hour and route, equivalent to 25 car lanes. Atocha Station, Madrid.
Source: Consorcio de Transportes de Madrid – CTM (Spain)

5.2 Progress made since The Guide to Change 2000 project

In this last section, we return to the conclusions of a preceding project that concluded in 2000, and compare its results to the ones obtained thorough the BEHAVE project.

The Guide to Change project also reviewed around 50 energy behaviour change programmes, but from the period 1990-1998. The results pointed to seven key findings about the implementation of behavioural change policies. We summarise these here, and compare this with the current situation, as an indication how much progress has been achieved since the beginning of this decade.

THE GUIDE TO CHANGE (2000)	BEHAVE (2008)
1. Behaviour change projects do work!	
Over 75% of the projects analysed showed significant positive results, in terms of objectives. However, objectives are often not clearly articulated, and results are often measured in something different than a lasting change in the targeted behaviour – making the results difficult to interpret.	Most cases show positive results. Goals and objectives are however still not specific enough to get a clear interpretation of the results.
2. Interventions have little or no basis in relevant theory	
Fewer than 20% of all projects examined used a theoretical framework to design their activities. This leads to a lack of projects building on past achievements, and little or no learning from past experiences.	There is a significant increase in the use of theory, e.g. feedback mechanisms, but the use of an overall theoretical framework is still rare.
3. Many projects favour the 'scattergun' or a 'one-size-fits-all' approach	
Fewer than 20% of all projects analysed used any form of market segmentation, and of those that did, only a handful employed a real segmentation of target groups. As a result, most projects applied a scattergun approach.	Almost 50% of the cases used some form of market segmentation. However, segments are not always specific enough to properly tailored activities.

4. Prior diagnosis is rare	
Less than one third of all cases examined were based on any real analysis or measurement of the ex ante situation. Even major programmes usually lacked this prior analysis.	This item has also improved: around 50% of the cases applied some form of preliminary research.
5. Behavioural evaluation and assessment is rare	
Most cases examined included some form of assessment of results, but the majority of this work did not include a proper measurement of the impacts of the intervention. This makes it very difficult to draw lessons from the intervention or to share these with other practitioners.	In 25% of the cases process evaluation was carried out; in 29 cases (of 41) an impact evaluation was carried out. This is a clear improvement over the 2000 situation.
6. Not many behaviour change projects lead to ongoing activities	
Most cases examined did not lead to further or ongoing activity, nor were these part of a bigger framework that could have provided continuity. In those situations, it must be expected that there will be a slow decay in the results of an intervention.	Most cases are part of a larger cluster of activities and lead to further activities. This is also a clear improvement, leading to more continuity in activities and better chances of lasting success.
7. There is still little transfer of learning between projects	
It is quite clear from the analysis that Member States experience many similar problems in relation to changing behaviour. Cross-fertilisation between projects in different countries, however, is rare, and the wheel is re-invented over and over again.	There is little evidence that learning from previous projects has improved. To build up the 'body of knowledge' on energy behaviour changes will require specific attention in the future.

Energy Aware Clock (Page 93). Photo and Concept by Interactive Institute (Sweden)

Progress has been made between 2000 and 2008, especially on a more careful planning of activities, better segmentation of target groups and increased continuity of activities. The evaluation of results has also improved, making it easier to assess what works and what doesn't. The use of an overall planning and evaluation framework of behavioural change programmes is still underdeveloped, as is the tailoring of activities to the specific characteristics of target groups. Institutional learning and the creation of a body of knowledge about these programmes will require further attention.

5.3 Recommended Reading

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The guide *Changing Energy Behaviour; Guidelines for Behavioural Change Programmes* provides an overview of the best practices and guidelines for developing and implementing successful policy interventions aimed at consumers. It is a useful and practical tool for agents from administrations, businesses and social groups, who, in the future, will drive actions related to a change in energy habits of society.

The Guide is a result of BEHAVE, a project founded by the Intelligent Energy Europe Programme 2003 2006 from the European Commission. BEHAVE aims to enhance the performance of behavioural change programmes and projects in the household and transport sectors, by adopting a rigorously scientific approach to evaluating a wide range of recent programmes. A total of 41 projects and/or programmes carried out in ten EU countries, within the period 2004 2007, were selected and analysed out of an inventory of a 100 examples of various types of behaviour programmes, such as education, mass media campaigns, feedback, personal advice, community network approaches and innovative use of ICT tools.

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