

# What We Did

The project was delivered over a thirty-six month period, beginning in January 2006 and ending December 2008.

## Methodology:

- Each partner selected their own tools for gathering information
- Households were informed of the project by way of the project flyer.
- Householders completed an initial questionnaire to determine whether they adhere to the partner's selection criteria.
- The advisor visited the household and completed a comprehensive audit of the energy used in the property and in transport.
- Households were asked to record energy use using diagnostic tools or to record their behaviour patterns.
- Household received an audit report with recommendations and estimated energy savings.
- An action plan was drawn up with the advisor to agree which recommendations were acted upon.
- A second audit established what actions had been taken to enable the final energy savings or "Negawatts" and savings in carbon dioxide to be calculated.

**Eco n'Home** is a 3-year project taking place under the SAVE field of the European Commission's "Intelligent Energy Europe" programme.

Project partners are from France, Belgium, Germany, Italy, Portugal, and the United Kingdom.

**Aim:** reduce energy consumption and carbon dioxide emissions in a minimum of 1000 households.

Target reduction of 10 to 20% in energy per household followed and 1 tonne in emissions.



## United Kingdom

### Shrewsbury (Marches Energy Agency)

**Household Recruitment**

MEA invited households involved or connected with existing and past projects to participate in Eco n'Home. These households were asked to encourage their friends, family and colleagues to also respond. MEA recruited 53 households to the project.

**Energy Survey**

During the visits, householders were asked to complete a questionnaire. Energy monitor plugs enable the participant to measure the electricity use of appliances operating on standby. Households were also provided with a travel diary to record all journeys and modes every day for one week.

**Reports and Action Plans**

The National Home Energy Rating (NHER) was used to generate recommendations and to calculate financial savings. Householders were provided with a list of recommendations. Each recommendation was accompanied by an estimate of financial, energy and CO<sub>2</sub> savings. Recommendations were listed from the easiest to more difficult and / or costly actions.

**Follow-up**

Activities included monthly themed mailings; events; ongoing personal contact to provide advice; £100 interest free loan toward cost of energy efficiency measures; referrals to contractors for insulation; and showing of the film "An Inconvenient Truth".

### Leicester (Leicester Energy Agency)

**Household Recruitment**

Householders contacted Leicester City Council to apply for an energy efficiency grant scheme available in their area, and they were invited to participate in Eco n'Home. A total of 62 householders took part in Eco n'Home.

**Energy Survey**

The householders completed questionnaires on their electrical appliances, lighting, transport use, income / level of education and their motivations for taking part. A full National Home Energy Rating survey was undertaken to calculate their current energy consumption and carbon dioxide emissions. The householder was asked to record their meter readings, which were collected over the phone or by post. Two temperature loggers were installed per house to provide half-hourly indoor temperature monitoring.

**Reports and Action Plans**

Each householder was given a schedule of works, designed in order to obtain the maximum level of reductions in consumption and emissions possible for that property. Local contractors installed the measures. Individual Action Plans were created to encourage householders to make additional lifestyle changes.

**Follow-up**

The information pack was used to explain the results and to signpost to other organisations, websites, grant schemes etc for further environmental actions.



**France**

## **Gefosat**

### **Household Recruitment**

Recruitment methods included local press and flyers left in municipality buildings and TV and radio slots. Householders registered their interest by completing an entry form.

### **Energy Survey**

Participants completed a questionnaire, and the data was inputted onto a common database. Householders were asked to provide copies of recent energy bills. The survey lasted between 1 and 2 hours. Electricity monitor plugs were installed for two or three weeks to measure the consumption of electrical appliances and standby losses. Water thermometers were used to check the efficiency of the hot water system.

### **Reports and Action Plans**

A software tool called "Dialogie" was used to gather information on the building fabric, the heating and hot water system, ventilation, electrical appliances, lighting, and the energy tariff. Householders were provided with a report and action plan, which they were required sign.

### **Follow-up**

Activities included provision of advice and information to participants; meetings to talk about energy and climate change; and letters.

## **MVE**

### **Household Recruitment**

One hundred people were selected from an existing database and sent an invitation to participate. Eligible criteria were to have lived in their property for at least one year, and not planning on moving within the next three years. Door-to-door visits were also used to recruit participants.

### **Energy Survey**

Participants were sent two questionnaires, which gathered information on their motivation to take part, characteristics of the building, heating system, transport, electrical appliances and lighting. Electricity monitor plugs were installed for one month to measure consumption of the main electrical appliances. We also measured standby losses. A thermometer was used to measure the inside temperature.

### **Reports and Action Plans**

Each participant received a report giving recommended actions, ranging from low cost options such as insulating the roof to more expensive options. The participant was required to sign the action plan.

### **Follow-up**

The participants subscribed to an Internet exchange group called "yahoo group", which enabled some exchange of useful information. Other activities included meetings with the participants; phone calls to report on progress; and further advice provision.

## FLAME

### Household Recruitment

Householders were recruited via press articles, the internet, letters, phone calls, a press conference, radio slots, television, and through an existing database.

### Energy Survey

During the survey, information was gathered on electricity, gas and water consumption, transport and the building fabric. Measures of stand-by losses from large appliances were made. Where measurements were not possible, average consumption was estimated.

### Reports and Action Plans

Tools used included "Dialogie" (for heating and electricity), "Autodiag" for transport emissions and "Cons'eau" for water consumption. Householders were provided with a list of recommendations containing low cost and high cost actions. Typical recommendations included new heating system, insulation, energy efficient appliances and energy saving lights.

### Follow-up

Activities included meetings; letters; repeat of initial survey and conferences.



## Germany (Kliba)

### Household Recruitment

Households were sent a voucher for an energy consultation (included with their electricity bill). 70 households were interested in having a consultation. A further 60 people were selected from an existing database, out of which, 30 households agreed to participate in the project.

### Energy Survey

The householders completed questionnaires on the building envelope (type of building, year of construction, last renovation), heating, electric appliances and lighting. Standby losses from the main electric appliances were measured by meters.

### Reports and Action Plans

The Heidelberg Heating Certificate was used to calculate the energy ratio of the building, evaluate its insulation quality, and suggest energy saving measures. SPARWATT, a software tool from Frankfurt, Germany, was used to measure electricity consumption. A transport questionnaire calculated the costs and emissions of transport. These tools were used to advise on a package of measures and to provide personalized advice on behaviour.

### Follow-up

Activities included themed mailings; press articles; and events such as training on eco-driving.



## Italy (EAA)

### Household Recruitment

Public meetings, door-to-door visits, and contacts from an existing database were used to recruit participants.

### Energy Survey

Participants completed a questionnaire on the characteristics of the building, type of energy used, electrical appliances, lighting and transport use. During the visit energy bills and gas/electricity meter readings were collected. Standby losses were measured using electricity monitor plugs. Inside room temperature, as well as water temperature, were also monitored. Each survey took an average of 1 to 1.5 hours.

### Reports and Action Plans

Participants were provided with a report giving recommended actions, with particular focus on the need for an efficient heating system. Comparisons were made between the participants homes and well-insulated buildings. Participants were required to sign the action plan.

### Follow-up

Activities included advice provision; and further collection of meter readings.



## Belgium

### Household Recruitment

The 36 households that paid for an energy audit contacted us themselves, mainly because of concerns about their energy bills. The households that were offered a free energy audit by our co-financers were contacted via letter. Most of these were low-income families with the highest energy bills.

### Energy Survey

Participants were sent a questionnaire on the characteristics of the building, types of energy used, electrical appliances, and behaviour. Participants were then sent 2 electricity meters with a list of appliances to measure for 1 week, (based on their answers to the questionnaire). The survey took from 1 hour to 4 hours. Standby losses were measured, and in some cases temperature loggers were installed to check the control of the heating installation.

### Reports and Action Plans

The participants were provided with a report, which provided advice on a package of measures with a significant impact (energy consumption reduction of 30% or more) and with paybacks of less than 3 years. Advice on behaviour was also included.

### Follow-up

Activities included meetings with the participants to discuss the results and provide advice; displays some of energy efficiency measures; ongoing monitoring of energy consumption and benchmarking of progress.



## Portugal

### **Household Recruitment**

Householders recruited to the project had to have lived in their property for at least 1 year and planning to stay in that property for a further 3 years. 100 households were selected to take part. Recruitment methods included articles in newspapers, websites, sessions at local schools and dissemination of the project leaflet.

### **Energy Survey**

After pre-registration (by mail, phone, etc.), each participant completed a pre-questionnaire. The questionnaire asked for information on general characteristics of the building, heating and hot water system, type of air cooling system, transport habits, electric appliances and lighting. The surveys took from one to two hours per property. Householders were asked to provide copies of their gas and electricity bills and to record for one year their monthly gas and electricity meter readings. Standby losses of electrical appliances were measured using an energy meter (called "SEM 16").

### **Reports and Action Plans**

Recommended actions focused mainly on simple and low cost improvements, which were easy to implement. The reports were sent by post to all the participants. Participants were contacted to check whether they were happy with the proposed recommendations. A verbal agreement was established with the participants to implement the measures.

### **Follow-up**

Activities included providing technical advice to participants; articles (in newsletter to national energy agencies and in local newspapers); and dissemination of best practice case studies.

Further information is available on the project website: [www.econhome.net](http://www.econhome.net).