

## Environmental Information Sheet

### Save Energy

#### Overview

Household energy (gas, oil, electricity etc) accounts for nearly a third of total energy use. Heating and hot water make up over 80% of this. While the amount of household energy used has gone up by over 20% in the last 15 years, carbon dioxide emissions produced from its generation have not increased. This is because of the change in fuel supply from highly polluting coal to gas and nuclear.

*Energy efficiency* or cutting down the amount of energy we need is the first step in cutting down the carbon dioxide emissions that contribute to climate change. This might be through improved insulation or more efficient electrical appliances, for example. Energy efficiency is also vital to help tackle *fuel poverty*, which affects an estimated 2 million households in the UK. There is considerable scope to make improvements, and a lot of potential for householders to save money in doing so.

Increasing the amount of *renewable energy*, from wind or water power for example, is the other half of the equation. Renewable energy does not produce carbon dioxide emissions, so by drastically cutting the energy we need and supplying most of the rest from renewable sources, we should be able to heat and light our homes without contributing to climate change. Nearly a quarter of energy is also lost in heat from the power stations themselves or in transmission to where it is used, so changing the national grid to encourage more local generation is also essential.

Fuel poverty is a problem that particularly affects rural areas, which are not on the gas network and need to rely on more expensive fuel sources such as oil. It has also often proved harder to get work done under the Warm Front energy efficiency programme in rural areas, since improving isolated properties is relatively expensive for the contractors who are paid at a standard rate: there have been examples of long delays and shoddy work. Older people living in large family homes, who may be capital-rich and not necessarily classed as low income, can be especially vulnerable. They are also sometimes reluctant to take up grants – an appeal to do so on environmental grounds may help. However, rural householders are proving particularly keen to take up renewable technologies, since the cost savings are greater. For farmers, a small wind farm can also provide a good source of additional income.

Energy use can be an excellent example of sustainable development. It can save money, help create jobs, and improve the quality of life of the most vulnerable, as well as helping cut down carbon emissions.

#### National framework

The 2003 Energy White Paper, produced by the DTI, had 4 goals: tackling climate change, improving energy security, tackling fuel poverty and increasing economic competitiveness. It committed the government to a 20% reduction in home energy use over the ten years to 2010. Other plans and reviews, including ones on microgeneration, energy efficiency and an overall review in 2006, followed. A further white paper is planned in 2007. The government has also stated that all new homes should be carbon neutral by 2016. This means that they will have to reach high levels of energy efficiency so that minimal heating is required; the remaining energy is then provided from renewable sources.

The national Fuel Poverty Strategy was launched in 2001, with the goal of eliminating fuel poverty in vulnerable households by 2010, and in all households by 2016. Fuel poverty is defined as the need to spend more than 10% of income on fuel. Living in cold, damp homes has a major impact on health, as measured in the approximately 25,000 “excess winter deaths” each year. This is far higher than in some other colder areas, such as Scandinavia. Tackling fuel poverty, particularly as fuel prices rise, is a vital part of a sustainable energy strategy.

The Renewables Obligation, introduced in 2002, sets (increasing) mandatory targets for all electricity suppliers for the proportion of electricity to be provided from renewable sources. Renewable heat (eg solar water heating) is not currently included. The two main sources of renewable energy in the UK at present are hydroelectricity and onshore wind: the UK has the greatest potential wind resource in Europe. Other sources, such as wave and tidal, are still at a smallscale, experimental stage.

<http://www.dti.gov.uk/energy/index.html> The Department for Trade and Industry website is the main source of official energy information, including the Energy White Paper, the 2006 Energy Review, the Fuel Poverty Strategy and explanation of renewable energy.

<http://communities.gov.uk/index.asp?id=1505833> The English House Condition Survey is the most comprehensive source of data on household energy efficiency and fuel poverty.

## **Key players and programmes**

**Community Action for Energy (CAfE)** is a network of community based energy initiatives, managed by the Centre for Sustainable Energy, with Energy Saving Trust funding. See the website for case studies, funding database, and training days. <http://www.est.org.uk/cafe/welcome/>

### **Carbon Trust**

Independent company, funded by government to provide advice on carbon reduction to businesses and local government. Telephone advice available to all (and some free materials), but site visit only for those with energy bills of £50k+. <http://www.carbontrust.co.uk/default.ct>

### **Centre for Alternative Technology**

Useful source of technical information, with information sheets, courses, publications for sale etc. Worth a visit. <http://www.cat.org.uk>

### **Electricity companies**

Gas and electricity companies have mandatory targets for the promotion of energy efficiency, called the Energy Efficiency Commitment (EEC). Half of the support must be directed towards low income households. EEACs have details of their local grants and promotions. It is also worth exploring the potential for joint initiatives and funding.

### **Energy Efficiency Advice Centres**

There are 48 energy efficiency advice centres (EEACs) in the UK, part-funded by the Energy Saving Trust. They provide free, impartial telephone advice, home energy checks, promotional activities, information on local grants etc. They may be part of a larger energy organisation with varied funding sources, and are occasionally based within local government. The network is being reorganised to take on a wider remit, including renewable energy and eco-driving as well as energy efficiency. This is being piloted in N. Ireland, the North East and Anglia, with national roll out planned from 2007. <http://www.est.org.uk/myhome/localadvice/>

### **Energy Saving Trust**

The Energy Saving Trust (EST) is a not for profit organisation, funded by government and the private sector to promote sustainable energy and cut carbon dioxide emissions. Its main focus is domestic energy. Useful website. <http://www.est.org.uk/>

### **Local Government**

The Home Energy Conservation Act (1995) required all local authorities with housing responsibilities to achieve significant (30%) improvements in the energy efficiency of all housing stock in their area within a 10 year period. While the target has not been achieved, the local authority HECA officers are useful contacts at a local level.

### **Low Carbon Buildings programme**

This provides government match funding for householder, voluntary, public and private sector renewable energy projects. Very oversubscribed. <http://www.lowcarbonbuildings.org.uk>

## **National Energy Action**

National charity targeting fuel poverty. Useful resources, including practical guide to energy efficiency in community buildings. <http://www.nea.org.uk/>

## **Warm Front**

Defra funded programme to provide energy efficiency measures to low income households. <http://www.defra.gov.uk/environment/energy/hees/>

## **Priorities for action**

### ***Individual***

Changing to low energy lightbulbs, insulating lofts (to 270mm - nearly a foot) and cavity walls are the most cost effective actions. Low energy lightbulbs can pay for themselves within a few months, while loft insulation will pay for itself within a year or two. There is lots of scope for action. For example, of the estimated 17 million homes in the UK with cavity walls, 11 million are uninsulated<sup>1</sup>. The EST home energy check, is a good starting point: this can be completed online or is available from the local Advice Centre.

Household renewable energy is a much more expensive option, and should only be considered once all energy efficiency improvements have been made. The most popular option is solar water heating, although it can take 20 years to pay back its cost. However, solar installations are an excellent visible symbol of change, and important in creating a sense of momentum.

Choosing efficient electrical appliances is also important. Look for A rated appliances (up to A++ for fridges and freezers): they will save money over their lifetime. The amount and energy consumption of appliances, such as plasma TVs, is of growing concern.

You can also make sure that all the electricity you buy comes from renewable sources, although it's important to make sure that you are contributing to *additional* renewable energy generation rather than just what the supplier would have to do anyway under the Renewables Obligation. See the 2006 report from the National Consumer Council, which gives details for all suppliers.

<http://www.ncc.org.uk/responsibleconsumption/green-tariffs.pdf>

### ***Community***

With regard to community buildings, the first priority is still energy efficiency: see the National Energy Action guide. However, communities can also work together to develop renewable energy projects: see the CAfE and CAT websites for examples and information. There are also a growing number of initiatives to raise awareness and share information, through open days (eg at ecohomes or households with solar heating), street stalls etc.

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<sup>1</sup> Defra 2004