

## **Energy Saving Recommendations for Householders**

In December 2011 Green TEA (Transition Eynsham Area) entered the LEAF (Local Energy Assessment Fund) competition run by the government aimed at helping villages and other communities raise awareness about reducing energy use in the home. Part of this funding has enabled Green TEA to employ energy and building consultants to survey 20 homes and give advice on how to make homes more comfortable and reduce the amount of energy we use.

Following the 20 household energy surveys, which covered a wide range of construction types and demographics, this document presents a summary of the energy reduction advice given to those householders. Much of the advice revolves around common sense and thrift.

The funding also enabled Green TEA to:

- buy a community thermographic camera that shows heat loss from homes;
- conduct 50 air-tightness tests that highlight draughts;
- insulate the solid stone walls of an Eynsham home as a demonstration project;
- train half a dozen local people to conduct energy surveys
- train one builder to install solid wall insulation.

If you would like to have your house surveyed by the assessors that have been trained during this project, book a thermographic survey or need any advice on the above issues then please contact GreenTEA for more information.

### **Thermographic surveys**

A thermographic camera takes a picture of your house but, instead of recording colours, it records temperatures. The use of thermographics in this project has been enormously useful for two reasons:

- It helps people understand the areas of their individual homes that are most worthwhile to tackle, in terms of reducing energy use
- It changes the conversation people have from something abstract like climate change to something immediate and personal like wasting money

### **Background on energy use**

In the UK, on average, the largest proportion of energy used in our home goes on heating. Annually, heating our houses has accounted for over half of all energy used by the domestic sector for the last 30 years. Even with better insulated homes we are still using more energy to heat them year on year. Now that central heating is widespread, all rooms in the house are commonly heated and acceptable internal temperatures have risen; some guidelines even suggest internal temperatures as high 24°C; whereas four decades ago this could have been around 10°C lower. In most houses 16-18°C with appropriate clothing can be perfectly comfortable and the

difference in fuel use between 16°C and 24°C is huge. Another reason energy use for heating our houses is so high is that more and more people choose to live alone or not in multi-generational households/families.

## **Recommendations for the building fabric, walls, roof, windows, floor etc.**

### **Loft Insulation**

This is the easiest place to install a good thickness of insulation and, as a large proportion of heat is lost through the roof, it is important to do. The Council also offers grants and if you haven't already had your loft insulation topped up to 12"/300mm contact the West Oxfordshire District Council for more details 0800 804 8777.

When insulating loft floors a wool-type insulation (glass/ mineral/ sheep's/ plastic/ wood-wool etc) can be used. Where storage areas are required the Insulated Loft Board from B&Q might be of use: [www.diy.com](http://www.diy.com). This board is made especially for this application and is heavily subsidised by the government. Insulating the loft hatch will also help. One company that sells suitable products is Hatch Thatch. Please remember that, in order for roof spaces to stay healthy they need good ventilation, if there is no roofing felt this will come throughout the tiles. If felt has been added then be sure not to block the ventilation path at the eaves and make sure the insulation installer checks it is adequate, even if it is a breathable membrane.

### **Sloping ceiling insulation**

Sloping ceilings in bedrooms can be very cold because there is nothing between you and the outside world apart from a bit of plaster and the tiles. Insulation can easily be installed by builders or competent DIYers if they are happy clambering around in the loft. The easiest thing to do is gently push a rigid insulation board down between the rafters to the eaves from the roof space. Make sure that the insulation is cut tightly and sits to the room side, as an air gap of around 50mm needs to be left between the insulation and tiles/felt.

### **Cavity wall insulation**

Cavity wall insulation is also covered by a grant, is easy to install and makes a big difference to comfort. The financial return in energy savings is relatively quick so it's sensible to have it done. Installers can check your walls for free if you don't know whether they have already been filled. Cocoon are a local company offering advice on this and can put you in touch with local installers. Currently the grant for £99 will cover having all the walls filled. Unfortunately if the area of unfilled cavity is too small the work may not be covered by the grant scheme as the council is looking to undertake work that makes a big difference to heat loss. All this means is that it may cost a little more and the work might take a few years to pay for its self rather than over one heating season under the full grant. Mention Green TEA and the LEAF funding when contacting Cocoon: [www.cocoonyourhome.co.uk](http://www.cocoonyourhome.co.uk)

### **Suspended timber floor insulation**

The suspended timber ground floor of older houses are generally uninsulated. Floors can be insulated between the floor joists with a wool-type insulation (glass/mineral/sheep's/plastic/wood-wool etc). Depending on access this can either be done from below, if the crawl space is sufficient, in which case a recycled plastic wool like Non-Itch makes the job much less unpleasant. If the floor has to be insulated from above it will require the floor boards to be lifted. Sometimes only two out of five boards need to come up, just enough for access. The insulation will need to be supported underneath by a breathable membrane or netting stapled to the joists and should in no way impede the under-floor ventilation. It is important to use a wool type insulation so no moisture is trapped in the timber floor structure. Air bricks in the walls that ventilate the floor should be kept clear and unblocked and checked annually to maintain good under-floor ventilation. So that this air movement does not come up into the house another breather membrane can be laid over the floor joists before the floorboards are laid back down. Sealing the skirting boards to the floor will also reduce draughts coming up into the room.

### **Solid floor insulation**

Insulating the solid ground floor is more difficult and would in most cases only be considered as part of a major refurbishment. Short of digging up the solid floors and insulating below only a few options exist depending on the floor covering needed in the room. Where there are carpets on solid floors, thermal underlay can be put down and is shown to make a big difference to comfort. Thick cork floor tiles will also make it feel warmer in rooms where a smooth finish is required. Otherwise, you can place rugs down in Winter to help on tiled or lino/vinyl finished floors. These will make your feet warmer and make the room feel more responsive to the heating system.

### **Solid wall insulation (walls with no cavity)**

#### **Background**

The Government scheme for financially helping homeowners to reduce energy use is called the Green Deal and is likely to be launched at the end of 2012. The logistics of delivering such a scheme are immensely complicated, especially when you consider there are around 6.6 million solid wall homes in England made from a wide variety of building materials.

Research into the long-term implications of this sort of intervention to buildings is ongoing and many historical building associations are concerned that we are rushing into unknown territory. Undoubtedly as we learn more about thermal renovations of traditional buildings our strategies will change. However, the scheme as it is currently set up, comes in the form of a loan and will be delivered by a combination of insulation manufacturers and 'trusted' high street names such as large supermarket chains. These companies are likely to specify their own products and give the work to large centralised contractors. This situation may change in the future once firm strategies have been established but unfortunately for the time

being the opportunity for employing good local builders who understand the buildings in their area is limited.

One local company set up to provide valuable and independent advice on the Green Deal scheme is the Energy Saving Cooperative. [www.energysaving.coop](http://www.energysaving.coop)

### **Internal or External wall insulation?**

Solid wall insulation is complicated and costly, but does dramatically reduce heat loss and improve comfort in the house. Insulation is applied to either the inside or outside of all the external walls and both approaches have their own complications. Internal wall insulation is difficult to install correctly and for many reasons external insulation is much more preferable. Unfortunately in many cases planning permission is needed for external wall insulation as it changes the appearance of the house. Even if permission is needed it is still something that should be considered as it is generally much less complicated, less expensive and has fewer associated problems than internal wall insulation. In many cases, houses will need a combination of internal and external wall insulation, as different walls will present their own problems.

### **Internal wall insulation**

If internal wall insulation is really the only option there are very few products that have been specially designed for this application. Most products available on the mainstream building market have been designed for other applications and then adapted to suit internal walls as this sort of insulation has become more popular. The characteristics and requirements of solid walls are recognised in the Building Regulations (Document L1b, section 3.8, item C) and special considerations need to be applied to traditional walls (brick/stone/etc.), which are 'breathable' (water vapour permeable, nothing to do with air!). Any insulation put on the walls should not impede the walls ability to 'breathe' as solid walls generally need to continue to be able to respond freely to changes in temperature and humidity.

Unfortunately the building industry is not as good as it needs to be where condensation risk analysis in walls is concerned. The common calculation methods ignore any rainwater hitting the wall and therefore conclude the likelihood of complications from moisture to be much lower than they really are. The building industry is slowly changing but we would advise you to insist that moisture risk analysis of the wall insulation is undertaken by the installers or manufacturers in accordance with BS 15026:2007 compliant software, not BS 13788:2002, which is normally the case.

There are only a few products that are appropriate for internal insulation and each house should be evaluated on an individual basis. These products are specified and sold by Natural Building Technologies, Ecological Building Systems, Lime Green and the Green Building Store. As part of the government grant won by Green TEA a local builder has recently been trained to install internal wall insulation and you can

contact Green TEA for more details. If for some reason you choose a different type of insulation it should still be vapour open and we urge you to ask that moisture risk analysis calculations are carried out in accordance with British Standard: BS 15026:2007. rather than BS 13788:2002 which is only for walls with rain screens like vertical tiles or timber cladding. Where walls have this sort of external cladding more mainstream products can be used, contact suppliers for details.

### **External wall insulation**

External wall insulation for solid walls is generally finished with a render although other finishes are available. There are many types of external wall insulation available and the main thing to consider when choosing which type is to make sure it is breathable (water vapour permeable to a similar degree as the brick/stone). Over the life of a building it is inevitable that small cracks will appear and a very small amount of rain will get in behind the render or insulation (large cracks should obviously be filled). This small amount of water is not a problem as long as it can evaporate out again reasonably quickly. Some insulations, by their nature, prevent drying out and a build up of moisture can occur which is obviously bad for the wall and the insulation. Moisture risk analysis of the wall insulation should be undertaken by the installers or manufacturers in accordance with BS EN 15026:2007 and a provision for small rain-water leaks should be included. Normally 1% of the annual rainfall is simulated between the insulation and the wall.

### **Secondary glazing, blinds and curtains**

New windows are extremely costly and often take well over 100 years to pay for themselves in the energy savings made. As it is only around half the year that windows need to be thermally efficient some other cheaper options are available. Fixing secondary glazing to single glazed windows has benefits in terms of comfort (cutting down draughts) as well as reducing heat loss. Many systems are available and at the cheaper end of the spectrum are either Magnaglaze, or you can use a local Perspex supplier and a DIY secondary glazing kit available from: [www.omegabuild.com](http://www.omegabuild.com). These systems allow you to remove the secondary glazing when the heating season has finished and store them under the bed or somewhere else suitable, so you can operate the windows as normal during the warmer months.

Further treatment of the windows with blinds, or even thermal blinds, means that when combined with secondary glazing and/or curtains the resulting thermal values will be similar to new double glazed windows, often at a much lower cost. It is also very important that curtains do not hang over radiators. Radiators are designed to work by distributing hot air around the room through convection (not by radiation as the name suggests). Where radiators are sited below windows, curtains should be altered so they can be neatly tucked behind when drawn to maximise the heat into the room.

### **Ventilation**

It is common for ventilation to be responsible for around 10% of the heat lost from a house which can end up costing hundreds of pounds a year. Tests can be done to

establish where draughts are coming from, and it is often easy to seal up holes once they have been found. A local company in Kidlington offer this service.

There are some measures you can deal with yourself. Common areas of air leakage include things such as service and pipe penetrations in external walls (Bathroom and kitchen soil pipes etc); cracks around window frames and under window sills; gaps around door frames and so on. Use suitable mastics or expanding foam for cracks and service holes and use brush-type stick-on draught excluders for doors. Again, fitting a curtain over doors or, better still if you have the space, a draught lobby, will improve matters.

If you have a chimney that is either not in use, or used only intermittently, consider using an inflatable balloon when you aren't using the fireplace. These are reusable and available from Chimsoc.

It is important to remember that a certain amount of ventilation is needed to provide fresh air, remove moisture from cooking and washing etc, and keep the internal air free from mould spores and dust mites, both of which like high levels of humidity. In bathrooms and wet rooms ventilation is necessary to get rid of moisture as quickly as possible before it condenses on or in the wall where it can lead to mould etc. Extractor fans should be fitted in bathrooms and kitchens to avoid this and to keep the house healthy. These can be Humidistat fans, which come on automatically when the moisture level in the air reaches a certain point.

Keep an eye out for condensation and mould/mildew. If it is found, try to increase ventilation levels in the area and reduce the production of moisture, e.g. shorter showers (if extraction is poor) and dry clothes outside. If it is necessary to dry clothes inside then this should be done on a clothes horse in a south facing room with the window slightly open to let the moisture escape.

If these measures do not reduce the mould, you might want to consider fitting an insulated air-brick, one on each side of the building, which will help remove moisture from the house. One company that sells them is:

[www.triton-chemicals.co.uk/pdf/triton\\_air\\_brick\\_passive\\_air\\_vent.pdf](http://www.triton-chemicals.co.uk/pdf/triton_air_brick_passive_air_vent.pdf)

## **Heating**

Some rooms in houses are very difficult to heat. These rooms often have a variety of issues. They may be draughty, occasionally used or difficult to insulate. Central heating with standard radiators heats our houses with hot air, not with radiant heat as the name suggests. If rooms are draughty the hot air can easily escape and the boiler then needs to fire up to put even more heat into the room to keep the temperature constant.

When heating some rooms is very difficult and insulating is complicated it is sometimes an option to change the type of heating used. Electric infra-red heating (sometimes found outside pubs and in churches) can be very useful in draughty, cold rooms. This gives you the same sort of feeling of heat as an open fire but at a

fraction of the cost of a night storage heater. Infra-red heating is especially useful in situations where you need to sit still for some time such as home offices and need the air to be fresh and not stuffy.

Infra-red heaters can seem expensive to buy, but when you compare the running cost of one heater in a home office compared to having the whole house heated during the day, or using a supplementary fan heater, they become very attractive. Heating by electricity is very expensive and has a much higher rate of CO<sub>2</sub> emissions than heating by gas, so anything you can do to reduce this is a good thing. Small free-standing heaters can also be moved around the house to wherever you are sitting enabling the background central-heating to be set quite low. This is especially useful in hard to heat homes and listed buildings. One company that sells a range of different size Infra-red heaters is Infranomics.

Many radiators are fitted to the external walls of houses. This means that a fair proportion of the heat generated is lost through the wall rather than being useful inside the house. Fitting radiator reflector panels is a cheap and useful method for ensuring that heat is useful rather than wasted. When combined with the use of correctly fitted curtains if the radiator is under a window, these can have an enormous effect on both comfort and energy bills.

Thermostatic radiator valves should also be fitted to radiators, helping ensure that you can control heating on a room by room basis, rather than just as a 'whole house' system. The room with the main thermostat in it should not have one fitted, however, or this one should always remain on the highest setting, or the system itself wont work properly.

Proper controls for the heating system should also be considered. If the heating system is not controlled properly, it is most likely costing you more money than it should. Controls like 'Weather Compensation' will help the boiler decide how much energy to put into the heating system. If it is very cold outside it will do more work or, if it's warmer than expected, it will compensate for this.

There is a debate about whether it is better to have the heating on constantly at a lower temperature (say 16 deg) or for several hours at a time at a higher level (say 20 deg). Every house will be different in this aspect and an easy way to find out is to try both during next Winter. Read your gas meter, then set the controls to 'On' at 16 deg for a couple of days. Read the meter again and set it to 'Timed' and set the thermostat to 20 deg. Read the meter again and see which technique used more. Obviously, changes in weather will affect your results and the most important thing is to ensure that you are comfortable, so take note of the weather and of how comfortable you feel during the experiment.

Heating systems can be complex and difficult to understand but we have found in this project that overall heating system efficiencies can range between 40-80% and this can have an enormous effect on the size of your gas bill. When combined with a thermally inefficient house, an inefficient heating system can suffer higher losses

(and therefore costs to you) than any other use of energy, so the system is definitely worth looking after and spending a few pounds on.

### **Boilers**

It is difficult to give general guidance on replacing boilers, as advice would normally depend on the efficiency of the existing system and on the amount of energy you actually use.

If a boiler is 78% efficient, 22% of all the energy you buy is wasted. New boilers are around 90% efficient and while on the surface it might seem sensible to replace boilers is not always that simple. Due to the cost of buying and installing boilers being relatively high it is generally only financially sensible for high-energy users to replace old boilers. If your hot water and heating bills are very low then the financial payback times will be very long, often over 100 years and no improvement in comfort is actually felt. Simple calculations can be done to work out the financial payback of new boilers with current energy usage at current energy prices.

However, in general most houses could benefit from insulating hot water pipes and adding insulation to hot water tanks, if possible. This helps the heating system run efficiently with heat being delivered where you actually want it. Obviously wearing appropriate clothing inside during the winter months costs nothing, and, as a rule of thumb, it is estimated that most houses could save around 10% of their heating costs by reducing the thermostat temperature by just 1°C.

### **Hot Water**

Hot water use in homes can be responsible for up to 25% of energy use in the home particularly if there are lots of residents, or teenagers that like to take long showers!

Most people understand that deep baths use more water than showers, but some powers showers have very high flow rates. If you have a shower attachment in the bath then you can easily gauge how much water you use when showering by just keeping the plug in the bath. New designs in shower-heads help to reduce water use while ensuring that showers still feel comfortably powerful. Many companies such as Ecocamel and Hansgrohe sell low-flow shower-heads but water pressure has to be above around 0.75 bar for them to work (you should be able to see what the water pressure is by looking at your boiler). Kitchen and basin taps can also be fitted with aerators, for a few pounds each, which can halve the flow rate while retaining good pressure for rinsing. Taking these measures will not only reduce water bills, but will have a marked effect on hot water bills as well.

Again, ensuring that your hot water tank, if you have one, and pipework are well insulated helps the system run more efficiently and reduces energy wastage

### **Cold water**

The domestic use of cold water normally accounts for a small percentage of a household's total environmental impact. It is only when we start to heat water for

central heating/washing etc. that a significant amount of energy is used. In energy terms the water/sewerage system runs relatively efficiently and rainfall rates are usually high in the UK. Even though the use of the word 'drought' in the UK has a very different meaning to that in Ethiopia there are still some sensible ways of reducing the use of this valuable and increasingly scarce resource.

Flushing the toilet can account for a large proportion of water use in the home. Water use in toilets varies and there are different ways of reducing water used to flush. Cistern volumes can be reduced with 'hippos' and single push button flushes can be changed to have two settings. Lever flush cisterns can also be retrofitted with a handle/siphon that allows you to regulate how much water you flush with. An average family in the UK can use up to 150 litres per day simply flushing the toilet. Fitting water saving devices can dramatically reduce this, making a big difference to your water bill. Although it may seem distasteful, there is real merit in the jingle: 'If it's yellow, let it mellow. If it's brown, flush it down'!

Again low flow aerators can be fitted to cold taps where the flow rate can be reduced. Normally this is not recommended for the main kitchen tap as high flow rates are often needed although, if you wash up with the tap running, these will save both on heating and water use and are also more effective for 'spray' washing

### **Lighting**

Lighting technology has moved on so quickly in the last few years that most of the myths surrounding energy efficient bulbs (initial cost, quality of light, warm-up delays, lack of non-standard designs, cant fit dimmer switches etc) no longer hold true. Put simply, over the lifetime of one energy efficient bulb, you can expect to spend around £18 in the cost of the bulb and the electricity it uses. For an old-fashioned bulb giving the same level of light, over the same amount of time, this cost rises to over £70! Media outlets claiming that you have a right to incandescent lighting really do no-one any favours at all. The same sort of cost differences apply to Halogen lighting when compared to LED lights and the technology has reached the point where there is no noticeable difference in light quality.

For the houses we surveyed in Eynsham, lighting costs averaged about £170 per year and this could be reduced to around £30 by switching to low-energy lighting. We recommend you talk to Philips or Megaman about lighting.

### **Appliances and electrical use**

It is rarely a good idea to throw out an old appliance that is still working. The energy and materials required to build a replacement appliance are quite high, so it may not make environmental sense. However, some appliances (American style Fridge freezers or old tumble dryers) use so much energy that it may be worthwhile.

Consider the use of an energy monitor (Efergy, Wattson etc) to test your appliances one at a time. WODC have a scheme where you can borrow one. An alternative is to buy an Energenie, which you can fit between an appliance and the plug socket and

let it run for a few days. This will tell you how much the appliance costs to run and you can make a more educated decision on whether it should be replaced.

Appliances such as fridges and freezers work by removing warm air from the compartment and dispersing it from the back of the appliance. If the cooling fins on your appliance are covered in dirt or fluff, or there is no ventilation space behind the appliance, it will need to use a lot more energy to work properly.

Standby loads may not seem high, using a few Watts for the TV and DVD etc, but it has been estimated that, collectively, the UK needs to run 2 power stations just to meet this demand. You can buy remote controlled switching that can turn off everything in a room at one go, or just be more aware of standby use.

In some houses, electricity use seems inexplicably high. New research suggests that hot water and heating pumps set up incorrectly can account for a large proportion of electricity costs, so make sure your heating engineer checks your pumps when the boiler is next serviced.

In the future, we can expect to see more common use of 'smart' control systems which help control household energy use and could do so in the form of an SmartPhone app. We can also expect 'smart' energy grids and appliances, which will help to ensure that we have as few power stations running as we need to and help reduce domestic electricity costs. If replacing appliances, consider buying those that are 'smart grid ready'.

## **Useful Contacts**

### **Hippo**

Water saving device for toilet cisterns, saves up to 3 litres of water per flush

[www.hippo-the-watersaver.co.uk](http://www.hippo-the-watersaver.co.uk)

01531 637 916

### **Interflush**

Retrofit siphon to reduce water use for lever flush toilets. Water only flushes when the lever is held down

[www.interflush.co.uk](http://www.interflush.co.uk)

01924 500 510

### **Eco Camel**

Low-flow shower heads

020 8211 3666

[www.ecocamel.com](http://www.ecocamel.com)

**Hans Grohe**

Low-flow shower heads  
www.hansgrohe.co.uk  
01372 472 001

**Infranomics**

Electric, infra-red portable heaters  
www.infranomic-energysolutions.com  
07791 027 416

**Natural Building Technologies** - near Oxford

Specialists in insulation and thermal renovation systems - excellent technical support and advice  
www.natural-building.co.uk  
01844 338 338

**Green Building Store**

Specialists in insulation and thermal renovation systems - excellent technical support and advice  
www.greenbuildingstore.co.uk  
01484 461705

**Old House Store** - Henley on Thames

Localish company for all traditional plasters and mortars  
www.oldhousestore.co.uk  
0118 969 771

**Ecological Building Systems**

Specialists in insulation and thermal renovation systems - excellent technical support and advice  
www.ecologicalbuildingsystems.com  
Republic of Ireland (products dispatched all over UK)  
Tel +353 46 9432104

**Lime Green**

Specialists in insulation and thermal renovation systems - excellent technical support and advice  
[www.lime-green.co.uk](http://www.lime-green.co.uk)  
01952 728611

**Encon Insulation** - Local insulation distributor

Sell mostly mainstream products but do stock more specialist brands  
www.encon.co.uk  
01865 734 500  
Unit 5<sup>[SEP]</sup>  
Stanton Harcourt Ind. Estate<sup>[SEP]</sup>  
Witney<sup>[SEP]</sup> Oxfordshire OX29 5UU

**Environmental Building Services** - Oxford based company

Air tightness testing to help reduce draughts and energy bills. Other services also available.

[www.eb-services.co.uk](http://www.eb-services.co.uk)

01235 867412

**Energy Saving Cooperative**

Local advisor set up to provide advice on the Government's Green Deal scheme to finance insulation and other expensive energy saving measures.

[www.energysaving.coop](http://www.energysaving.coop)

**Magneglaze**

Retrofit Secondary Glazing

[www.magneglaze.co.uk](http://www.magneglaze.co.uk)

01952 691033

**Omegabuild**

Retrofit Secondary Glazing

[www.omegabuild.com](http://www.omegabuild.com)

01769 574426

**Cocoon** - Oxford based company

Advice on energy saving and insulation installers

[www.cocoonyourhome.co.uk](http://www.cocoonyourhome.co.uk)

0800 80 48 777

**Hatch Thatch**

DIY loft hatch insulation and draught proofing products

[www.iglooenvironmental.co.uk](http://www.iglooenvironmental.co.uk)

0207 275 9001

**B&Q**

The most environmentally aware mainstream DIY store. Stocks heavily subsidised insulation products including the insulated loft floorboard

[www.diy.com](http://www.diy.com)

**Non-itch**

Recycled plastic bottle insulation, god for the DIY market as it has no loose fibres and is itch-free, comfortable to work with in confined situations.

[www.ybsinsulation.com/products\\_roof\\_non-itch-loft.htm](http://www.ybsinsulation.com/products_roof_non-itch-loft.htm)

0844 99 100 44

**Energenie**

Products for monitoring the energy use in the home and of individual appliances

[energenie4u.co.uk](http://energenie4u.co.uk)

0844 4127923

**Triton Chemicals - Ultrovent**

Ventilation products to help control condensation

[www.triton-chemicals.com/pdf/Triton\\_Ultrovent\\_DS.pdf](http://www.triton-chemicals.com/pdf/Triton_Ultrovent_DS.pdf)

0845 4379637

**Chimsoc**

An inflatable, reusable plastic balloon, designed to stop chimney draughts

[www.chimsoc.co.uk/](http://www.chimsoc.co.uk/)

01494 564799

**Megaman**

Lighting and lighting controls

[www.megamanuk.com](http://www.megamanuk.com)

0845 4084625

**Philips**

Lighting and lighting controls

[www.lighting.philips.co.uk](http://www.lighting.philips.co.uk)

0845 6011283

**Sources of funding include:****West Oxford District Council**

The local Council have a discounted deal to install cavity wall and loft insulation for £99 (rather than £150-£500). Call 0800 804 8777, quoting 'West Oxon Deal'. This service could be free if you are over 70.

They also offer free use of an energy monitor for two weeks, to help you understand which appliances and fittings in your house cost the most to run. Call 01993 861000 for more details.

**Warm Front Scheme**

Grants of up to £3500 for improving energy efficiency in the home. Dependent on age or benefit status and house condition.

<http://www.direct.gov.uk> and search for the Warm Front Scheme

**Scottish & Southern Fuel Poverty Project**

Based at Didcot CAB & Wallingford CAB for any clients at risk of fuel poverty or with a fuel issue. The service includes a benefit check, advice on saving money, fuel, insulation, grants, fuel debts, energy tariffs. Appointments available at Didcot CAB, Wallingford CAB, by telephone or home visit.

Contact Mark Benians, Fuel Adviser

[fuelpoverty@didcotcab.cabnet.org.uk](mailto:fuelpoverty@didcotcab.cabnet.org.uk)

Tel. 07539 228351 or 01235 750750

