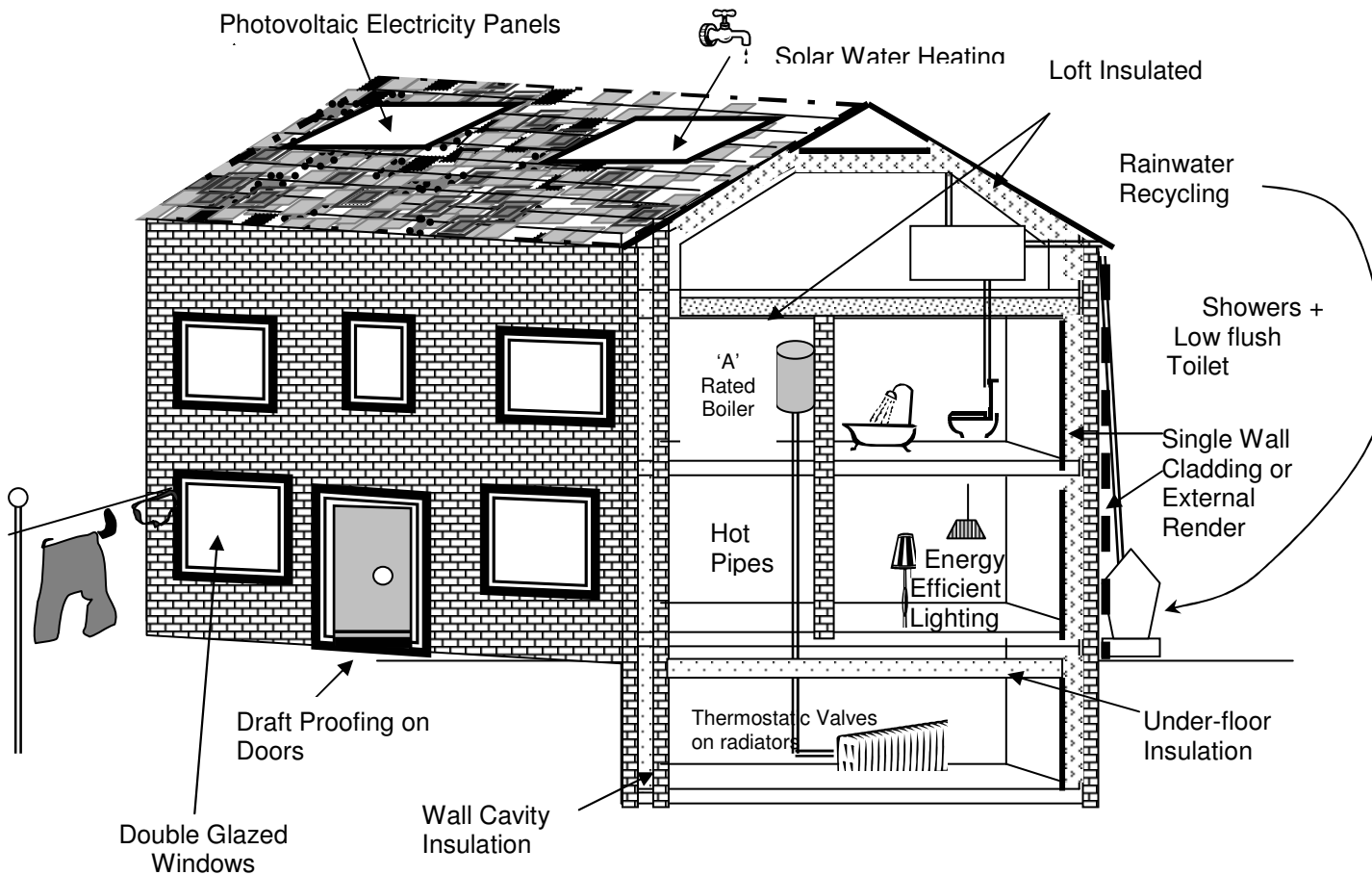


ANNEX G

SKETCHING the ENERGY EFFICIENT HOME

- How to make a Normal Home a Greener Cleaner Home.

This house belongs to the Sketch family of Mythlegate, York. Constructed by Irregular Planning and Sons it is a little unusual as it uses a mixture of standard building techniques from the early 1900's and the late 1980's. This is OK however as it shows a range of building issues that people might face if they want to improve energy efficiency in their home.

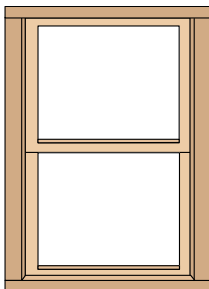


When the Sketch family moved in last year they wanted to know how to make their home more energy efficient. None of them know anything about building and were concerned about making the proper choices before doing anything to their home.

Their neighbour suggested the family go to **the Energy Efficiency Advice Centre, at 20 George Hudson Street, York**. The Sketch family found out that **the Energy Efficiency Advice Centre give free independent advice** about improving energy efficiency to anybody, whether they own or rent their home. They even help people get grants for home improvement work.

The Sketch families story provides paybacks summary tables for the technologies and improvements giving an idea of how long it takes for the savings resulting from improvements to cover the original costs. This information provided for best estimate purposes is independently sourced¹ from experts and based on a semi-detached house with 3 bedrooms. The 'Installed Costs' assume that installation is undertaken by a professional installer. Where grants helping people make the suggested home improvements are available at time of writing information has been supplied.

This is what the Sketch family did - you could do it too!



WINDOWS and DOUBLE GLAZING: The first thing the Sketch family changed, was their glazing, this is the most popular energy efficiency measure taken by people in this country.

The Sketch family got advice before getting new double-glazing and found out that “low-e” glazing must be used in all replacement and new windows. “Low-e” glazing has a special heat reflective coating reducing heat loss from homes through windows by 45 - 50%. Argon gas filled double-glazing is also available and this makes heat escape at an even slower rate than other types. With double-glazing fitted the Sketch family expect to **save between £25 and £35** on heating bills **each year**.

The Energy Efficiency Advice Centre helpfully pointed out to the Sketch's that fitting double-glazing when existing window frames need replacing saves both time and money. If the Sketch's had not been able to do this straight away, or had been on a budget, they could have fitted secondary glazing. This is less effective than double glazing but also less expensive and still saves money by cutting heat loss and draughts as a temporary measure.

DRAFT PROOFING WINDOWS AND DOORS: The Sketch family were amazed to learn that proper draft proofing of doors and windows is **one of the most cost effective way to cut bills**. Mr Sketch remembered using stick on foam proofing at his old home but this didn't seem to work very well as it dropped to bits after a couple of years.

The Energy Efficiency Advice Centre were really helpful and said that the best way to draft proof is to use polypropylene tubing. This initially costs more than foam but lasts so much longer and in the end it saves more money. In checking for advice they realised that the family living room has both an open coal fire, and a back-up gas fire. The Sketch's were not sure whether the gas fire had balanced flue and were told that if the room had no airbrick they could have been at risk from Carbon Monoxide poisoning if rooms were too tightly sealed.

¹ sourced from the Energy Savings Trust and Energy Efficiency Advice Centre

The Sketch's had the flue checked and also had an airbrick fitted before installing draft proofing throughout their home. To be on the safe side they have fitted Carbon Monoxide Detectors in their living room and kitchen where they have a combined electric and gas cooker; for more information about Carbon Monoxide Poisoning and prevention please see the glossary.

Through draft proofing the family expect to **save between £10 and £20 on heating bills** each year.

Paybacks Summary Table: Draft Proofing

Measure	Annual Saving (£/yr)	Installed Cost £	Installed Payback
Draught proofing	£10 - £20	From £50 - £75	3-7 years

INSULATING WALLS: The Sketch family learnt that up to 35% of all heat lost in homes can be through walls. They were very concerned about this as their home has a mixture of types of wall including cavity walls, typical of homes built between the 1930's and 1980's, and single shell walls built before this time or sometimes used in extensions.

Cavity Walls: They Sketch's learned that homes with cavity walls can be improved simply using cavity wall insulation which fits like sandwich filling between the two layers of wall. **Cavity wall insulation can be the most cost effective way to save energy.**

Single Shell Walls: For their single shell or non cavity walls they had a choice of external cladding, specially rendering outside and if this couldn't have been done (cases where walls are of exceptional architectural interest) then cladding could have been used on the inside of the wall.

Paybacks Summary Table: Wall Insulation

Measure	Annual Saving (£/yr)	Installed Cost £	Installed Payback
Cavity Wall Insulation	£100-£120	About £135	13-16 months
Internal wall insulation	£210 - £260	From £40/m ²	-
External wall insulation	£220 - £270	From £1800	From 7 years

Grants Support: The Energy Partnership / Energy Efficiency Advice Centre - See Contacts towards the end of this document - will insure that all home owners needing cavity wall insulation get proper independent advice and have it installed at discount prices.

Some people may also be eligible for a grant covering this work and additional improvements under the National Government funded Warm Front Scheme. See Glossary Warm Front.

INSULATING THE LOFT OR ROOF: The Sketch family learned that their un-insulated roof probably cost them 20% of their heating bill and were very anxious to do something about this. Again they discovered there were alternative ways of insulating the roof.

In homes where the loft isn't used as part of the living space and the floor boarding allows, a layer of mineral wool, prepared sheep's shoddy or recycled textile and/or paper insulation, material can be laid down horizontally like carpet. The depth now recommended is 270mm. Care must be taken by DIY enthusiasts to ensure sufficient gaps are left around the eaves to avoid condensation. A gap in the insulated area should also be left under water tanks to avoid them freezing and the pipe work and loft hatch should also be insulated.

Paybacks Summary Table: Loft Insulation

Measure	Annual Saving (£/yr)	Installed Cost £	Installed Payback
Loft Insulation (270mm)	£50 - £170	From £200	18 months - 4 years

Grants Support: The Energy Partnership / Energy Efficiency Advice Centre - See Contacts towards the end of this document - will insure that all home owners get proper independent advice about loft insulation and have it installed at discount prices. Some people may also be eligible for a grant covering this work and additional improvements under the National Government funded Warm Front Scheme. See Glossary Warm Front.

Primary Pipe Insulation Costs

Primary pipe work insulation	Approx £10 – 20
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In homes where the loft is used as part of the living space or the cavity between the floor boards isn't adequate thermo foil or special internal cladding can be used directly under the roof.

INSULATING FLOORS: The Sketch family home has a cellar which used to cause 25% of their heat to be lost through the floor. Mrs Sketch likes stripped pine floors rather than carpets which made the problem worse. As a minimum measure Mrs Sketch filled in gaps under the Skirting Boards with beading or Mastic sealant to stop draughts and reduce heat loss. She also wants to improve her savings by installing under- floor insulation and is working on Mr Sketch to see if he will do some DIY work with her.

Paybacks Summary Table: Floor Insulation and Draft proofing

Measure	Annual Saving (£/yr)	DIY Cost £	DIY Payback
Floor insulation	£30 - £40	From £100	From 3 years
Sealing skirting board gaps	Approx £10	Around £20	2 years

BOILERS: The Sketch's needed to replace their 15 year old boiler, and chose a new 'A' rated condensing model which will save them between a third and 40% (**about £150 each year**) on the fuel bill, it will also reduce their homes CO₂ emissions by a third.

High efficiency condensing boilers convert more than 88% of their fuel into heat, compared to 78% for conventional types. They have either a larger or a second heat exchanger, which saves the heat that would otherwise escape up the flue. The flue gases cool to the point that water vapour produced during combustion condenses. High efficiency condensing boilers can be easily fitted to most new and old heating systems. They're suitable for oil and gas-fuelled homes - even LPG (liquefied petroleum gas). They're usually no larger than conventional boilers and can be bought as either combination boilers, which heat up water on demand, or conventional system boilers, where a separate hot water cylinder is required.

Regulations introduced on 1st April 2005 in England and Wales require that boilers fitted from now on are of the high efficiency condensing type. Installers should be CORGI registered and able to advise you about energy saving recommended models.

Paybacks Summary Table: Condensing Boiler

Measure	Annual Saving (£/yr)	Installed Cost £	Installed Payback
'A' rated Condensing Boiler	Up to £100 per annum	From £1,750	From 10 years

Hot Water Jackets: If a separate hot water cylinder is used then a good well fitted hot water tank jacket at least 75mm (3") thick will create further savings, hot water pipes should also be insulated.



Paybacks Summary Table: Hot Water Tank Jacket

Measure	Annual Saving (£/yr)	Installed Cost £	Installed Payback	DIY Cost £	DIY Payback
Hot water tank jacket	Approx £15	From £54	From 4 months	From £10	From 8 months

Grants support: Some people may also be eligible for a grant covering this work and additional improvements under the National Government funded Warm Front Scheme. See Glossary Warm Front.

HEATING CONTROLS & Temperature management: To get the most out of their new high efficiency boiler the Sketches combined its installation with new heating controls. The new controls let their heating

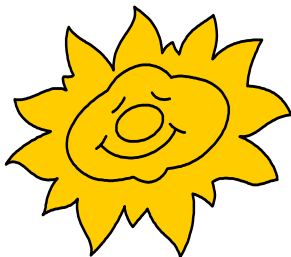
systems react to changes in temperature, providing different levels of heat in different rooms and switching the hot water on and off at the times they want.

The Sketch's heating controls will pay for themselves in under five years saving them as much as 17% on their heating bill. To be extra sure they got the right things they asked the installer to ensure their new heating controls and high efficiency condensing boiler carry the Energy Saving Recommended logo.

The heating in the Sketch's home is set at different temperatures for different rooms depending on the Members of their family using the room for long periods. The living room and Granny Sketch's bedroom, the rooms Granny spends most time in, are kept at 21°C (or 70F), in line with recommended temperature for less mobile people, the very young and older people. The rest of the house is kept to a temperature of no more than 18 °C (or 65F) the recommended temperature for healthy mobile people².

POSITIONING RADIATORS: When the Sketch family had their heating updated they got work done to move the the radiators. Many of the families radiators had been located on outside walls increasing heat loss through the walls, some were also beneath windows making heat loss even greater.

Even with new double glazing and wall insulation moving the radiators to internal walls should cut back the rate of heat loss and may save them £20 + per year. In rooms where the radiators couldn't be moved the Sketch's have used reflective sheeting on the wall behind to reduce heat loss.



PHOTOVOLTAIC PANELS AND SOLAR

WATER HEATING: The Sketch's house has a roof facing within 90 degrees of south and has no buildings or large trees overshadowing it. This makes their home ideal for the installation of solar Water Heating and Photovoltaic Panels. In homes without such perfect conditions, i.e. A South, South East, South West, West or East facing roof

people can still benefit from these technologies. Panels work throughout daylight hours, even if the sky is overcast and there is no direct sunshine.

Solar Water Heating: Solar Water Heating Panels or "collectors" are fitted to a buildings roof. They use the sun's heat to warm water, or another liquid passed through the panel and then fed to a heat store - e.g. a hot water tank – which helps provide hot water for the home.

Grants support: Mr Sketch was advised by the Energy Efficiency Advice Centre to apply for a grant through the Government funded scheme for

² Temperature advice taken from Local Energy Support Programme, York North and East Yorkshire publication: The Thermal Comfort Criteria of the Decent Home Standard. A Concise Guide for Local Authorities. For more information contact 01904 554406.

installing Solar Water Panels called Clear Skies³ which will pay out £400 towards the new system regardless of system size.

The Energy Savings Trust describe Solar Water heating as the most cost-effective, affordable renewable technology for housing currently available, which, if used and sized correctly for the household, can provide 50% of hot water needs over a year.

Paybacks Summary Table: Solar water Heating

Measure	Annual Saving (£/yr)	Installed Cost £	Payback
Solar Water Heating	Approx £120 - £175	Between £2,000 - £3,100 Or £1,600 – 2,700 with grant	Around 13 Years

To encourage people to get Solar Water Heating installed the Energy Partnership – a non profit making publicly funded body – See Contacts towards the end of this document – have teamed up with Solartwin. They will support people absolutely free in the following ways;

Evaluating the suitability of their homes for Solar Water Heating.

Preparing the clear-skies grant application for them

Getting the system installed.

As costs to professionally install solar water heating systems vary significantly it is important that those considering investing in this technology who are supported by the Energy Partnerships independent advisors do as much research as they can to ensure they get the best system for their needs and value for money. The Clear-skies scheme requires householders to obtain **at least three quotes** from **registered** suppliers before a Household Grant is Offered.

Photovoltaic (PV) Panels: Mr Sketch hadn't realised that solar panel were a different kind of technology to Solar Water heating panels until he began his research. His daughters school asked him to come and talk about all the Energy saving solutions that the family have installed in their homes and so, before doing this he wrote down the following description of how a solar energy panel or PV panel works. Missy Sketch is really proud of her families home improvements as the school are learning about climate change and what ordinary people can do to help the environment.

A PV panel consists of one or more solar cells, each cell is made from material which absorbs some light particles or photons from sunlight; photons are stable positively charged electrical particles which singularly equal a tiny amount of energy.

The photons absorbed by the solar cell start a process of freeing an electron; an electron is a stable negatively charged electrical particle. The combined

³ For More Information about Clear Skies grants for Solar Water heating see; <http://www.clear-skies.org/households/GrantsAndTechnologies.aspx>

effect of negative and positive energy exchange and flow through the solar cell material then produces electricity through a continuously running cycle during day light hours.

Energy produced from PV panels can be used immediately or stored in the equivalent to batteries. An average solar panel can produce electricity for 20 years or more. A Photovoltaic⁴ Panel can provide a household with about 30-50% of their electricity needs over a year.

Paybacks Summary Table: Photovoltaic Panels

Measure	Annual Saving (£/yr)	Installed Cost £	Payback
PV Panels	Approx £	Around £7000 or £3500	About 20 years

Grants Support: The Energy Saving Trust is running a Solar PV grants programme – for the Department of Trade and Industry – aimed at creating a long-term, sustained and viable market for solar energy. Grants are available to any UK property owner and do not require applicants to be financially assessed. Grants fund between £2,500-£5,000 (or 50% of the eligible costs of installing PV based on per kilowatt peak electricity generation) To get more information about Photovoltaic systems or help with applying for a grant people can find information on the Web at www.est.org.uk/myhome phone the hot line: 0800 298 3978, or contact their local Energy Efficiency Advice Centre.

ENERGY SAVING LIGHT BULBS: Granny Sketch, is 98 and getting a little forgetful, she lives with the Sketch family. Mrs Sketch knows that if lights have been left on in the family home it was either Granny or their rather absent minded son on his way out to play football. Mrs Sketch read in one of her magazines that **switching off an unnecessary light for just one night saves enough energy to run a stereo for 24 hours.**

Mrs Sketch is encouraging good habits in her family, but to be on the safe side got the Energy Efficiency Advice Centre to help her with some practical solutions. She was delighted to find out that installing just one energy-saving light bulb could save about £7-10 of electricity each year by only using about 20% of the energy ordinary bulbs need better still the bulbs will last 12 times longer than ordinary bulbs; making more time for shoe shopping. Apparently if every household in the UK installed just one, the saving in electricity would be the equivalent to the power needed for lighting 3 million homes each year⁵ or about £80 million.

⁴ The term Photovoltaic is derived from the Greek prefix “Phos” meaning light and Volta after Alexander Volta a pioneer in the field of electricity.

⁵ Source for figures see; Energy Information at the University of York www.york.ac.uk/energyconservation/matters.htm and the Radio Times Magazine 13th –19th August 2005

Mrs Sketch's first Energy saving light bulb was free from the Energy Efficiency Advice Centre after she took ten minutes to fill in a Home Energy Check Questionnaire, the rest she bought at her local hardware store. By using the bulbs in every room she hopes to save the family about £40 each year on their electric bill.

Paybacks Summary Table: Energy Efficient Light Bulb

Measure	Annual Saving (£/yr)	Cost £	Payback
One Energy Efficient Light Bulb	£5 - £10	Around £1.80 - £5.00	5 months – 1 Year

OTHER MEASURES AND GOOD PRACTICE

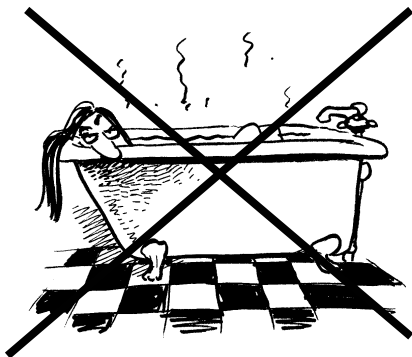
The Sketch family now know that energy saving is not just about new technologies but also clever thinking about every day things and knowing what to look for when buying new household goods.

Clever thinking about every day things

Making A Cuppa: The Sketches now measure out just the water they need to boil in the kettle before making cups of tea or coffee. This saves electricity and also lengthens the life span of the kettle by reducing scale build up. If everyone in York did this the savings would probably amount to the Street lighting bill for the city⁶. The Sketch's use white vinegar as a de-scaler⁷ in their kettle when lime scale builds up - due to York being a hard water area – as they know this will also improve energy efficiency.



Hot Water Settings: The Sketch family have set their hot water to 60°C, this is more than adequate for washing purposes and also hot enough to pasteurise the water to prevent diseases such as Legionella.



Brushing teeth: The Sketch's have stopped using hot water to brush their teeth and have learned not to leave the tap running as they brush but just pour 1/3 of a tumbler full of cold water each time. This will save the family the costs of 24,000 litres of hot water each year.

Showers: Whilst Mrs Sketch likes to soak in the bath after gardening and Junior likes to have a bath

⁶ Based on estimates for UK given in the Radio Times Magazine 13th –19th August 2005

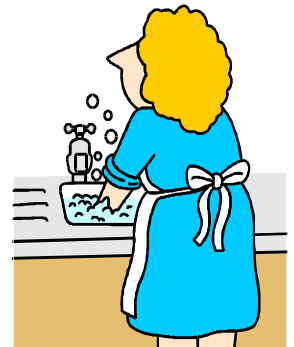
⁷ White vinegar can be used as an environmentally friendly de-scaler for kettles in the following way: pour sufficient white vinegar into a cool kettle to cover the heating element, leave for one hour, empty kettle and fill with water, bring to boil then discard the boiled water and rinse before using as normal.

after a football match the Sketches realise that on most occasions showering rather than bathing is less costly in terms of both energy and the water used; saving around 40 litres⁸ of hot water each time.

Cooking: Junior Sketch loves cooking as much as football and wants to be the low energy Jamie Oliver. **Pans:** He always uses only the smallest pans necessary and cuts vegetables and potatoes into fairly small pieces which cook faster. He only just covers fruit, vegetables, rice or potatoes with water and always covers pans with a lid to keep in heat. This way it not only takes less time to heat up the water and less energy to keep hot but the food cooks more quickly. Junior also knows he's improving the families health as less water and faster cooking times means less of the valuable vitamins and minerals seep away into the cooking water.

Refrigerating and Freezing: Junior never leaves the fridge or freezer door open longer than necessary, as cold air will escape and more energy will be required to make the temperature inside the fridge cool again. He never puts warm or hot food into the fridge and as one of his chores around the home he regularly defrosts the fridge and freezer and checks that the door seals are working properly; seals should be tight enough to hold a piece of paper securely when closed.

Washing the pots: Junior's not as keen on washing pots as he is on cooking but his Mum knows that washing the pots by hand and only when at least a washing up-bowl full needs doing saves the family money spent on powering the old dish washer and on the amount of water used. Junior is rather envious of next door's dish washer which is a new 'A' rated model (see below under what to look for when purchasing new household goods), the neighbours only ever run this on the economy cycle when its full up and their savings are equivalent to the Sketch's.

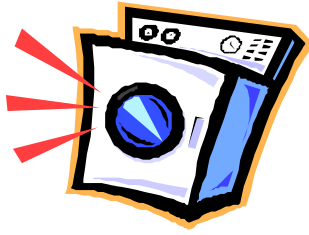


Standby Buttons: The Sketch family are every day folk and hardly what could be described as hippies, they love their music, television and video equipment. They have realised however that they could use these things more economically by not leaving them on stand-by mode. Leaving equipment on stand-by mode uses around 70-85% of the electricity the equipment needs when fully on and is one of the most wasteful things a family can do.

Washing the car: Mr Sketch used to wash the car every Sunday using hot water straight from the tap. Now he waits for Mrs Sketch to finish having a bath and siphons off the bath water to do the car washing, this re-uses around 1,920 litres of hot water each year.

⁸ Figure sourced from <http://www.doingyourbit.org.uk/>

Doing the Laundry: Mrs Sketch has asked the children to plan the clothes they need in advance so that she has time to dry them on the line rather than using the tumble drier; every time they forget and she needs to use the tumble drier she deducts £1.00 from their pocket money. Mr Sketch helps Mrs Sketch to sort the washing into colours and white loads and the washing machine is only used when there's enough washing for a full load.



All the washing is now done on a 40°C washing cycle as Mrs Sketch found that with modern washing powders this is perfectly adequate. The Sketch's use a de-scaler in their washing machine once every three months - due to York being a hard water area – as they know this will improve efficiency and extend the life of the machine. Mrs Sketch uses white vinegar as an environmentally friendly de-scaler for her washing machine⁹. By adopting these habits the family washing now costs the Sketch family about 30% of what it cost them last year

Curtains: Closing all the curtains at dusk will help to stop heat escaping through windows whilst opening the curtains during daylight hours will help rooms heat up through sunlight. Simple curtain management can save up to £20 per year.

What to look for when buying new household goods.

Householders who are looking to replace certain household items either by buying, hire or hire-purchase are now able to easily work out whether or not the new items are efficient ; i.e. use low amounts of energy and/or water to perform the jobs they do. All they need to do is check the European Community Energy Label which must be displayed on the following items by law;

- ✓ Refrigerators, freezers and fridge-freezers
- ✓ Washing machines
- ✓ Electric tumble dryers
- ✓ Combined washer-dryers
- ✓ Dishwashers
- ✓ Lamps
- ✓ Electric ovens
- ✓ Air conditioners

Energy		Washing machine
Manufacturer Model		
More efficient	A B C D E F G	A
Less efficient		
Energy consumption kWh/cycle <small>(Based on indicated results for 60°C cotton cycle)</small>		1.05
Washing performance <small>A: higher, G: lower</small>	A B C D E F G	A
Spin drying performance <small>A: higher, G: lower</small>	A B C D E F G	A
Capacity (cotton) kg		5.0
Water consumption l		5.5
Noise (dB(A) re 1 pW)	Washing Spinning	52 7.0
Further information is contained in product brochure.		

This also applies to new household products displayed for sale via Mail Order catalogues and the Internet as well as shops. Advertisements and manufacturers literature is required to contain similar information, and people should be provided with this information wherever such products are available for hire or sale.

descaler for washing machines put ¼ pint of vinegar into the drum through a 60°C wash cycle without laundry.

The European Community Energy Label is shown on the left. The labels on domestic appliances show on a scale of A to G where A is best and G worst whether the fridge, washing machine, iron, lamp or tumble drier in question is a high or low performer in terms of energy use and water consumption.

Shoppers are now used to this idea and choose items with the most A ratings as these cost least to run and reduce fuel and water bills.

Some items now display a higher than A rating i.e. AA or A++

The Table below gives an indication of the effect that opting to a more energy efficient appliance has in terms of savings each year. Where the difference in £ per year running costs are based on comparison between an average appliance purchased new in 1995 and an Energy Saving Recommended model of similar size. The table savings costs are based upon an electricity cost of 7.9p/kWh from the electricity supplier.¹⁰

Appliance	EU Energy Rating	Saving/year (up to)
Fridge Freezer	A+ or A++	£35.00
Upright/Chest Freezer	A+ or A++	£25.00
Refrigerator	A+ or A++	£15.00
Washing Machine	A	£5.00
Dishwasher	A	£13.00

ENVIRONMENTAL COSTS

Missy Sketch has used her families experiences as part of her school project about climate change and what ordinary people can do to help the environment. Missy knows that human activities, particularly burning of fossil fuels to produce energy release carbon as carbon dioxide (CO₂), contributing to global warming. Missy's class have learned that the CO₂ produced in this way is the biggest controllable source of CO₂ and they are finding out how to reduce this in their homes and school; after all the future is theirs.

Missy asked the Energy Efficiency Advice workers whether they could tell her what Carbon Emissions her home had produced before and after their home improvements work. This is what she found out.



An average UK home produces around 6+ tonnes of Carbon Dioxide each year and not including the

supplied by the Energy Saving Trust <http://www.est.org.uk/myhome/efficientproducts/>

carbon dioxide created by car or automobile usage. To balance the damage done by an average homes production Missy is told that home owners would need to plant around 36 broad leaved native trees¹¹. Missy's home before improvement was worse than average producing around 8 tonnes of CO₂ each year and would require about 48 trees planted to balance, or 6 trees per ton.

As each of the home improvements were installed the tonnes of CO₂ produced each year in the house reduced, the house now only produces about 1- 1.3 tonnes of CO₂ per annum or 6 to 8 trees worth. Missy has planted a Crab Apple and a Rowan tree in her garden and will be planting 6 more trees with her class during National Tree Week this year (See Glossary for more about National Tree Week).

CONTACTS

Energy Efficiency Advice Centre

Write: The Energy Efficiency Advice Centre
20 George Hudson Street
York

Call free-phone number: 0800 512 012

or by Email to: advice@4sustainable-energy.co.uk

Energy Partnership

People can contact the Energy Partnership on the free-phone number: 0800 512 012 or by Email to: advice@4sustainable-energy.co.uk

Warm Front

People can get further information about Warm Front on the free-phone number: 0800 512 012 or by Email to: advice@4sustainable-energy.co.uk

GLOSSARY:

Broad Leaved Native Trees

Broad Leaved native Trees would generally be agreed to be species of Deciduous (trees which loose their leaves in winter) trees which have grown in England since the last Ice Age. The below list is not comprehensive but provides a guide;

Alder (Alnus glutinosa), Ash (Fraxinus excelsior), Aspen (Populus tremula), Bay Willow (Salix pentandra) Beech ** (Fagus sylvatica), Bird Cherry (Prunus padus), Black Poplar (Populus nigra var betulifolia), Broad-leaved Lime ** (Tilia platyphyllos), Crab Apple ≡(Malus sylvestris), Crack Willow (Salix fragilis), Downy Birch (Betula pupescans),

¹¹ See Glossary for definition of Broad Leaved Native Trees

English Oak (*Quercus robur*), Field Maple (*Acer campestre*), Goat Willow (*Salix caprea*),

Hawthorn \cong **(*Crataegus monogyna*) and Midland Hawthorn \cong (*Crataegus oxyacantha*),

Hazel \cong ** (*Corylus avellana*), Hornbeam (*Carpinus betulus*), Rowan \cong (*Sorbus aucuparia*), Sessile Oak (*Quercus petraea*), Silver Birch \cong (*Betula pendula*),

Small-leaved Lime (*Tilia cordata*), Service Trees (*Sorbus domestica* and *Sorbus torminalis*), White Willow (*Salix alba*), Whitebeam (*Sorbus aria*),

Wild Cherry (*Prunus avium*), Wych Elm (*Ulmus glabra*)

\cong **Suitable for smaller gardens**

** **Suitable for Hedging or pleatching**

CARBON MONOXIDE: Poisoning and Prevention

Carbon monoxide (CO) is a poisonous gas, which may be given off by heating - both fixed and portable appliances - or cooking appliances that use gas, coal, wood or oil, if they're not working properly, if the flue is blocked in any way, or if the room is not properly ventilated.

More than 50 Deaths from accidental domestic carbon Monoxide poisoning occur in the UK each year. Carbon Monoxide gas has no smell, no colour or taste and this makes it particularly dangerous.

To avoid accidental death through Carbon Monoxide poisoning people should do the following things as a minimal precaution;

- ✓ Households with a gas boiler or heating system should be serviced every year
- ✓ Chimneys should be swept, even if the fire is not in regular use, every year
- ✓ Fit Carbon Monoxide detectors, these should comply with British Standard BS 7860 – a Carbon Monoxide detector is a warning device not a substitute for regular servicing.

In rented accommodation

The Gas Safety (Installation and Use) Regulations 1998 place a duty on landlords to make sure that appliances and flues are kept in good order and checked for safety at least once every 12 months. Landlords must also keep a record of previous safety checks and issue the current record to the tenant.

Tenants moving into new accommodation should:

- Demand to see a copy of the current record of safety checks carried out.
- Ensure that safety checks were carried by a CORGI-registered engineer.
- Not use any gas appliances which they think may be unsafe.
- Not attempt do-it-yourself work on appliances.

For more information about Carbon Monoxide in Homes please see the Department of Trade and Industry web site www.dti.gov.uk/homesafetynetwork/cm_intro.htm

National Tree Week is the Tree Council's festival marking the beginning of the tree planting season, and celebrating trees and woods across the UK. Including opportunities to plant trees or take part in events such as, walks, talks, songs, story-telling and tree dressing.

This Year it takes place between **23 November – 4 December 2005**

For More Information contact The Tree Council on 020 7940 8180 (office hours)

Or see their website: <http://www.treecouncil.org.uk/projects/ntw.htm>

WARM FRONT

Warm Front is a National Government funded initiative. The Warm Front grant can provide up to the value of £2,700 (or £4,000 if oil central heating has been recommended) of energy efficiency and heating measures for home owners or people living in privately rented properties. Energy efficiency advice with a view to the possibility of getting funding through the Warm Front scheme and tailored to each household can be provided in accordance with the Energy Savings Trust's Code of Practice from local Energy Efficiency Advisory Centres; to get support to apply for a Warm Front Grant or checking eligibility see **contacts** above.

Who might be able to claim a Warm Front Grant?

1. Householders who have a child under the age of 16 or who are pregnant and have been given a maternity certificate MAT B1, and are also in receipt of one or more of the following benefits:
 - Income Support
 - Housing Benefit
 - Council Tax Benefit
 - Income Based Job Seekers Allowance
2. Householders who are in receipt of one or more of the following benefits:
 - Working Tax Credit
(*which must include a disability premium*)
 - Child Tax Credit
 - Income Support
(*which must include a disability premium*).
 - Housing Benefit
(*which must include a disability premium*).

- Council Tax Benefit
(*which must include a disability premium*).
 - Attendance Allowance
 - Disability Living Allowance
 - Industrial Injuries Disablement Benefit
(*which must include Constant Attendance Allowance*).
 - War Disablement Pension
(*which must include the mobility supplement or Constant Attendance Allowance*).
1. People aged 60 years or over and who receive any of the following;
- Income Support
 - Council Tax Benefit
 - Housing Benefit
 - Income-based Jobseekers Allowance
 - Pension Credit

What energy efficiency and heating measures does Warm Front cover?

Insulation measures:

- Loft insulation.
- Draught proofing.
- Cavity-wall insulation.
- Hot-water-tank insulation.

Heating systems

- Central heating
- Gas room heaters with thermostat controls
- Electric storage heaters
- Converting a solid-fuel open fire to a modern glass-fronted fire
- Time controls for electric space heaters and water heaters
- Heating repairs and replacements

Other measures

- Energy advice.
- Two low-energy light bulbs.
- Hot water tank jacket.