

Eco case study

House: 1980's 3 story town house located in Bollington, Macclesfield.

Monitoring period: 2 year period between Jan 2008- Dec 2009



2009 carbon reductions

The carbon footprint of our house in 2008 was 5.99 tonnes, and in 2009 we reduced this to 4.57 tonnes, a reduction of 25%, and 1.41 tonnes.

	2008	2009	% difference
Gas	0.42 tonnes	0.35 tonnes	16%
Electricity	4.98 tonnes	3.74 tonnes	25%
Water	0.59 tonnes	0.48 tonnes	19%

Our choice in holiday destinations saw a potential carbon footprint of 5.6 tonnes end up at 0.2 tonnes.

How did we make these changes?

We are part of a low carbon community group and work in the environmental field, so the environment is never far from our thoughts. However, we did not necessarily know how to go about changing our lifestyles or make improvements to our homes.

The catalyst for change was brought on by attending the Bollington eco-refurbishment training day held Nov 2007. This was delivered by Nick Parsons, a lecturer at the Centre for Alternative Technology and founder of the South Yorkshire Energy Centre. We also formed an Ecoteam, following the Global Action Plan Ecoteam programme for 6 months, where we tackled an issue each month from waste, shopping, energy, water, chemicals and transport. This allowed us to focus each month, set actions and deliver them within a target period which we found really helped. The sessions also allowed us to learn from others, and get ideas we hadn't thought of ourselves.

The hardest area to tackle in our experience was holidays, yet they can have the biggest carbon footprint. We approached this by thinking about what was important to us in a holiday, and then sought to meet this by a destination closer to home. We love the outdoors, and countries with culture, so Scotland was a natural choice and somewhere we hadn't been together before. To cope with the British weather, we took up holiday activities which weren't necessarily weather dependant, such as kayaking. Other advantages included the money we saved on taking a big holiday abroad we spent on a new boiler, and extra days we could spend on holiday rather than travelling and recovering from jet lag.

How green are we?

Although we have made reductions, we have a long way to go to get to the target of 2 tonnes per person per year.

Next years focuses are going to be a focus on our personal day to day travel, new highly insulated front and back door, grey-water harvesting in the garden

ELECTRICITY

IMPROVEMENTS MADE

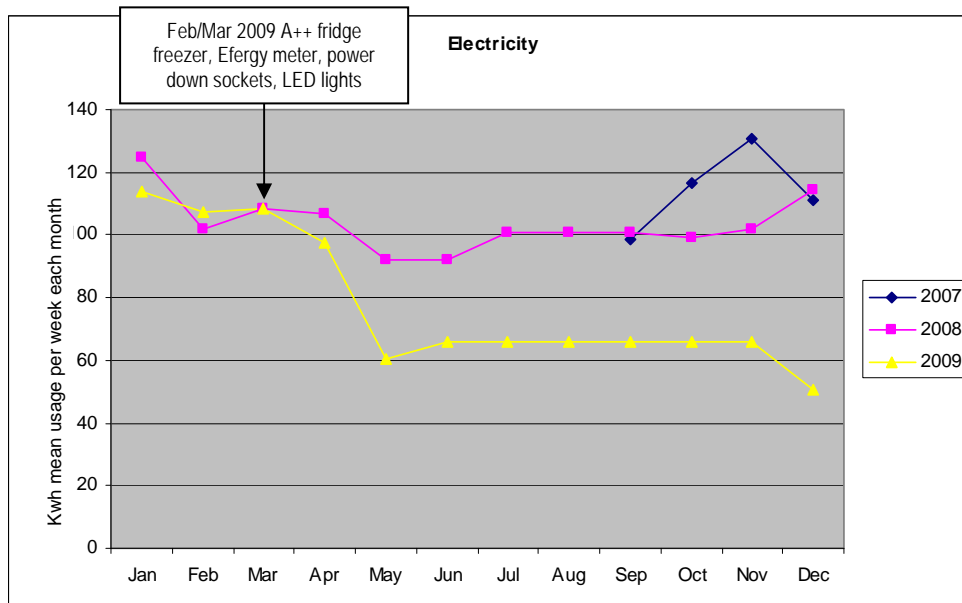
- Power down sockets for TV, DVD player Skybox, video, computer & printer
- Use of Efergy meter
- Replacement of halogen lights with LED lights



Photos: A++ Fridge-freezer

Photos: Remote controlled power down socket

Photos: Low energy lighting



SAVINGS MADE

- 25% reduction in electricity consumption over whole period
- 56% reduction electricity in Dec 09 compared with Dec 08
- 63% reduction in electricity in Dec 09 compared with Dec 07
- £163 annual saving (based on 2009 prices)
- 520kg CO₂ saving per year

GAS

IMPROVEMENTS MADE

- Cavity wall insulation installed Mar 09
- Solid wall and floor insulation in utility room installed in Mar 09
- A+ boiler installed in Dec 09
- Draught exclusion measures



Photos: Cavity wall insulation Mar 09

Photos: Draught proofing Mar 09

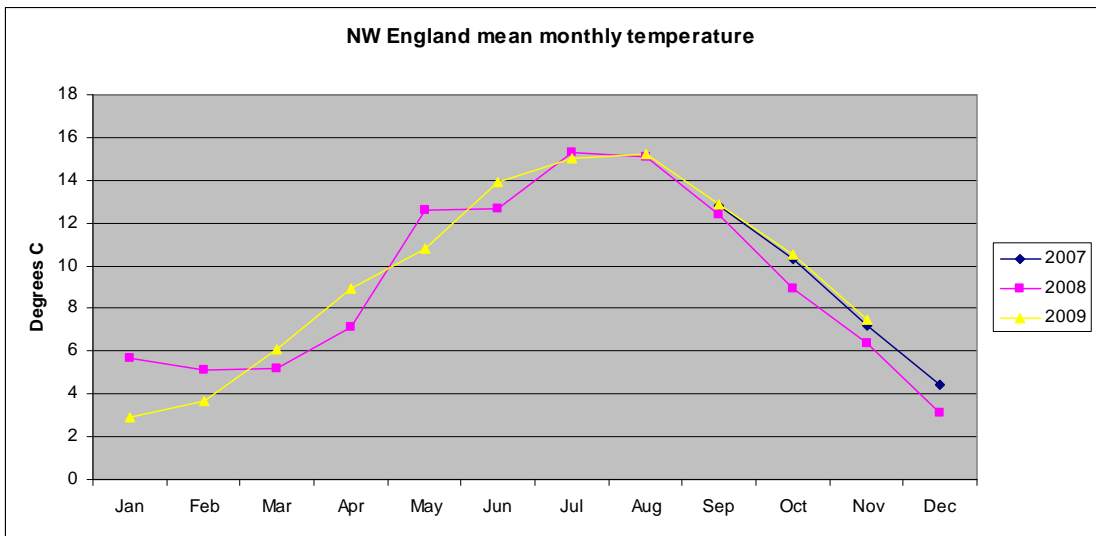
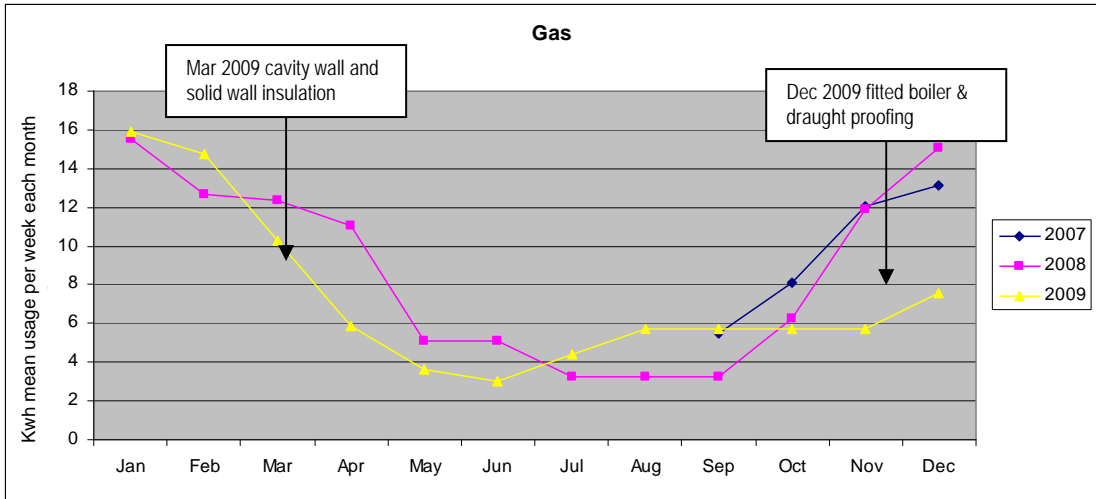
Photos: Solid wall and floor insulation Mar 09



Photos: A+ rated boiler Dec 09 (only 1 month of savings realised)

SAVINGS MADE

- 26% reduction in gas consumption
- £211 annual saving (based on 2009 prices)
- Gas usage reduced by 50% in Dec 09 compared with Dec 08



Photos: No cavity insulation – Nov 2007



Photos: Cavity insulation – Nov 2009
(notice the colour change in the walls compared with next door)

WATER

IMPROVEMENTS MADE

We undertook a water audit to find out where our main uses of water were. We found it to be the shower and the toilet.

- Toilet hippos
- Reduced flow shower head (reduced flow by 67% and saves 8.3m³ of water per year)
- Shower timer



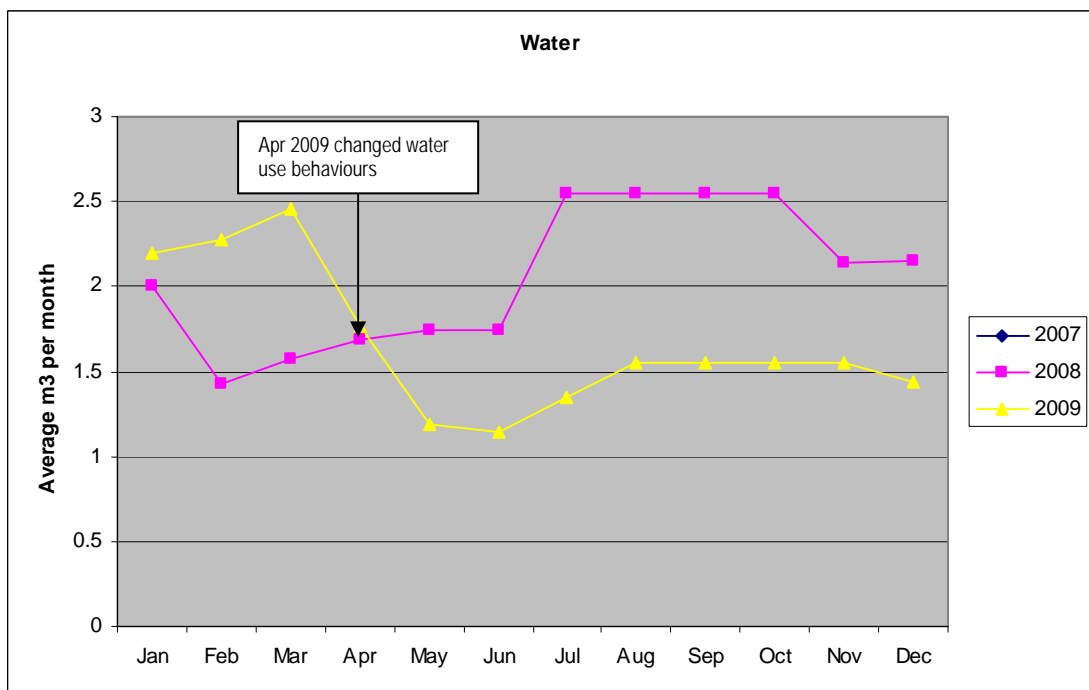
Photos: Toilet hippos installed in the cisterns



Photos: low flow showerhead



Photos: shower timer



SAVINGS MADE

- 19% reduction in water use per year
- 18.5m³ water saved per year
- Since fitting of new shower head, water use has gone down on average by 0.83m³ per month, 31% per month.
- Before any water saving measures were installed, average daily use was 165 litres per person per day (against a national average of 150 litres per person per day for a metered house). After April 09, this was reduced to 93 litres per person per day for the remainder of the year
- £45 saved per year (based on 2009 prices)
- 111kg CO₂ saved per year

SHOPPING & WASTE

IMPROVEMENTS MADE: SHOPPING

- Joined organic fruit and veg box delivery scheme
- 2 chickens were given to us as a gift
- Switched our washing and cleaning products to Ecover
- Bought more food locally, including meat from the butchers
- Kept a food diary for 1 week to find out what foods we wasted



IMPROVEMENTS MADE: WASTE

- Compost of cooked waste using Bokashi bins
- Improved recycling system with individual boxes
- New waste stream recycled: tin foil
- purchase goods with less packaging
- Arranged for milk and orange juice to be delivered to avoid packaging



Photos: improved recycling system



Photos: Bokashi bin enables us to compost cooked food



HOLIDAYS

IMPROVEMENTS MADE

- Nice by Eurostar instead of flying
- Weekend breaks in Wales and the Lake District instead of Europe
- 2 week holiday in Scotland instead of Canada

Nice by Eurostar for 2 people
Journey 61kg CO₂ instead of 610kg CO₂

Isle of Skye instead of Canada
Journey 90kg CO₂ instead of 4300kg CO₂

Weekend break in North Wales instead of Barcelona
Journey 16 kg CO₂ instead of 328 kg CO₂, saving 312kg CO₂

Weekend break in the Lake District instead of Rome
Journey 26 kg CO₂ instead of 400kg CO₂, saving 374 kg CO₂

REDUCTIONS MADE

- 193kg CO₂ from holiday travel actually taken
- 5622 kg CO₂ for holidays which we would normally have taken



Photos: Holiday in Nice

Photos: Weekend breaks in the Lake District and Snowdonia

Photos: Isle of Skye