

4. Harpes Road: Extensively renovated 1890s Oxford semi

General description:

Harpes Road is a 2 bedroomed 1890s end terraced house with a south facing rear. Over the years a number of energy efficient measures have been installed throughout the house. These include:

Sustainable newspaper loft insulation

- Thermal Sempatap on the terrace end wall
- Reflective ridged radiator foil
- Evacuated Tube Solar Water Heating for Domestic Hot Water
- Condensing Boiler
- Solar Photovoltaic (PV) panels installed in 2010.

And the next project is a wood burning stove potentially connected with a number of the house's radiators.



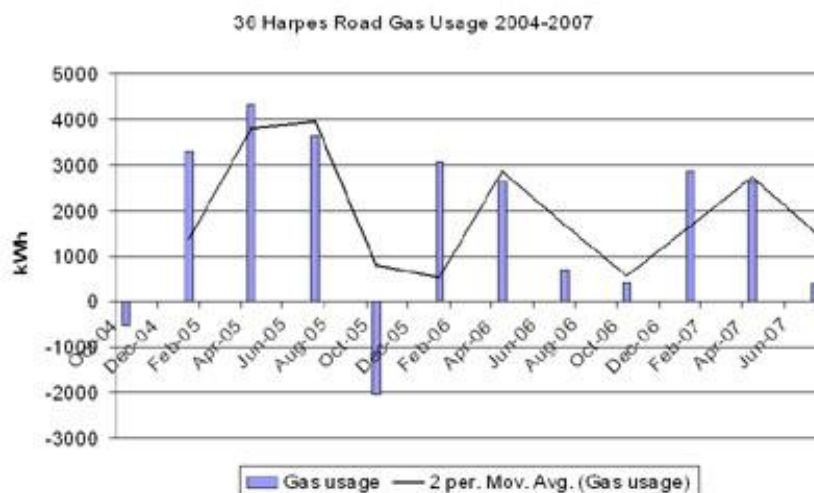
Vital Statistics

Harpes Road is a 2 bedroomed 1890's end terraced house with a south facing rear.

Annual energy use

See graph for gas energy use from 2004-2007 to demonstrate energy reduction since solar water heating installed.

Good energy (100% renewable electricity) estimated electricity use between September 2006 and August 2007 is 1454kWh.



Update November 2011:

- Annual gas use Oct 2010 to Oct 2011 was 7995.20 kWh
- Annual Electricity use Nov 09- Nov 10 (before Solar PV): 1648 kWh
- Annual electricity use Nov 10 – Nov 11 (after solar PV): 1063 kWh

About us and why we did it

I've lived in this house for 30 years and I've become increasingly concerned about climate change. So over the more recent years I've ensured that when doing work on the house I have installed the most energy efficient product.



Heating and Power

At the moment we are using gas for our heating and electricity for the lighting and appliances. However I use energy saving light bulbs (including LEDs) and try to purchase AA rated goods.

Solar Thermal



The solar thermal panels were installed in 2005 by Riomay. The tube type is SunTube, 6 tubes were installed covering an area of 2.6m².

The cost at the time was £3,800, with and I received a grant of £450 towards this.

Both the company and the product were very good. The solar thermal tubes cover all our hot water needs in the summer, and supplements our hot water heating in the winter.

House with just the solar thermal tubes (2007)

Solar photovoltaic



The solar PV panels were installed in November 2010 by JHS Power Solutions. The panels are Sanyo, and 6 were installed. The total cost was £8,000, including scaffolding. Both the company and the product were very good. In the first year after installation, my electricity bills were reduced by 35%.

An additional cost was new slates on the roof which we discovered was needed at the same time, so it would be good to ensure that any company checking your roof for solar PV or thermal checks the tiles on older homes.

House with solar thermal tubes moved, solar pv added, plus new tiles (Oct 2011)

Insulation

Typically our house has always been quite cold and hard to heat as it has solid walls. We have installed thermal insulation in a number of places in the house including

Loft: Instead of installing standard insulation we used sustainable recycled newspaper. 10 inches
Ground wall end terrace wall: We had a decorator install 3mm Thermal Sempatap on all the exposed walls when repapering, which is visually unnoticeable. The walls and the room feel much warmer than the walls in the room above it, which haven't been insulated.

Windows: We've installed double glazing on most of the windows with the exception of one.- We did an extension in 2005 which is when we installed the solar water heating and that extension meets the current Building Requirements.



Who did you go to for advice and info?

- The Sunnymead Community Action Group
- Chris Goodall - <http://www.carboncommentary.com/about>
- Oxford City Council through their Solar Initiative for a listing of recommended solar installers. (we found this really helpful)
- COIN www.coinet.org.uk
- The Energy Champions for homes in Oxford – ECHO – Run by the Oxford City Council

Who did each part of the work?

Task

Loft Insulation: Martin Carr – installed info@energizeoxford.co.uk

Novitherm Radiator Foil: Joulesave- sourced 01572 768362

Solar Thermal : Riomay- installed 01323 648 641

Solar PV: JHS Power Solutions

Updates:

I've just worked out that it's 585 Khws that it the reduction not 685 (poor maths!) therefore the percentage reduction is 35.5%.

It was lovely to see you yesterday. I did what you suggested and phoned Good Energy. Here are the figures:

Nov 09 - Nov 10 Electricity

| | | |
|----------|-----------------|------------|
| Quarters | Nov 09 - Feb 10 | 363 units |
| | Feb 10 - May 10 | 510 units |
| | May 10 - Aug 10 | 432 units |
| | Aug 10 - Nov 10 | 343 units |
| Total | | 1648 units |

NB Solar PV installed end of Nov 2010

| | | |
|----------|---------------------|------------|
| Quarters | Nov 10 - Feb 11 | 383 units |
| | Feb 11- May 11 | 294 units |
| | May 11 - Aug 11 | 218 units |
| | Aug 11 - end Oct 11 | 265 units |
| Total | | 1063 units |

ie 685 units less

Perhaps you can work out the pecentage saved.

I July I received £249 from the Feed in Tarriff.

My gas use from 13 April to 13 Sept 2011 was 788kWH and from September 14 2011 to 14 Oct 2011 was 158.46kWH.
Annual use Oct to Oct was 7995.20 kWh.

Please do let me know if there are futher queries.