



### Property Information Sheet



#### Name and Address

John and Hazel Sandison  
Sunnyhurst, 82 Mytton Oak Road, Copthorne,  
SHREWSBURY, SY3 8UH  
(Parking in Swiss Farm Road)

#### Property Description

1939 Semi with cavity brick walls. Original wooden and metal windows with single glazing. Insulation is acknowledged to be poor at present. Heating system is gas fired central heating supplemented with a Dunsley high output back boiler and original open fires.

#### What changes have you made to your home?

Installation of solar thermal DHW – 20 tube Viessmann Vitosol 300T collector. The 160 ltr DHW cylinder was found to be too small on sunny days so a second 90 ltr make-up cylinder was added with automated dumping of heat into it when main cylinder is satisfied. Installation of 2 PV arrays giving peak output of 3.96 kW. Installation of a 16" Dunsley high output back boiler connected into the central heating system using a Dunsley-Baker neutralizer to prevent cross feeding of boilers.

#### Why did you make these changes?

Our motives were to garner free energy from the sun and from wood.

#### What were the approximate costs?

Solar Thermal Collector - £2,760 including everything other than DHW cylinder (Jul 2009)  
1.8 kW peak PV installation using BP panels - £9,900 (Jun 2010)  
2.2 kW peak PV installation using Sanyo panel - £8,600 (Nov 2011)

#### What have been the approximate energy savings?

Solar DHW has collected 5820 kWh since Jul 2009 – equivalent to a saving in gas @ 4.66p/kWh of £271 if gas boiler was 100% efficient and gas at lowest tariff. Demonstrates need for RHI subsidy.  
PV panels have generated 4769 kWh to date yielding a Feed in Tariff of approx £2,146 @45p/kWh and if 25% usage of generated electricity assumed a further saving of £162 @13.6p/kWh

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### What have been the effects on your home?

As I have not done much work on insulation there has not been much effect on the home. However there is a huge sense of satisfaction being connected to free energy sources.

During 2012 I generated 3,193 kWh of electricity. My total consumption for the year was 2,225 kWh so I effectively generated my total requirement with a net export of 968 kWh (although you have to bear in mind that this does not mean a zero electricity bill as you pay for what you consume during non generating periods at night and don't get paid for all you generate in the daytime).

### Who undertook the work?

Self installation of plumbing took John ages. Hazel was very patient! Installation of solar DHW collector was by Stan Silva of Shrewsbury who is a very reliable one man installer so no disconnect between salesmen and installer. Work was done in 2 days. Both our PV arrays were put in by 'Eco Electrical Systems' of Bayston Hill. Another small company whose personal service I would highly recommend. Each system took about 2 days.

### Would you recommend them?

I would recommend both Stan Silva for Solar DHW and Eco Electrical Systems for PV.

### Wishlist?

I have hopes of making more use of the excess electricity I generate during sunny periods and to that end I have a light sensor which switches on my immersion heater when the sun is bright. The voltage to the immersion heater is reduced by a variable transformer to cut down the kW consumption. I have purchased some current sensors to enhance this system but have not had time to install them yet. A number of companies are developing product along these lines which will be helpful in making payback periods more realistic now the Feed in Tariff has been slashed.

I would like to make more use of grey water and rain water.

### Have you considered any measures but rejected them?

I have procrastinated so far on cavity wall insulation because my bricks are very hard and tend to spall badly when drilled. Once I have retired I might drill them myself!

### Do you have any further comments?

Works conducted so far have been very rewarding and fun. I enjoy being able to monitor my PV generation on my lap top during the week when I work away from home using a 'Current Cost' monitoring system which shows me instantaneously what each PV array is generating.