

## 73 Wilbury Crescent, Hove BN3 6FH



### Overview

Age/period of house:	Edwardian – 1907
Type:	Terraced house
Year moved in:	1985
No of rooms:	4 bedrooms, 5 other rooms
No of floors:	2
Wall type:	Cavity
Cost of measures:	£4,442 (excluding PV)
Appliances:	'A' rated

### Key words

+ solar thermal	+ insulation
+ photovoltaic panels	+ double glazing
+ energy conservation	+ 'A' rated appliances

### Introduction

Jeffery and Brenda have been in their Edwardian terraced house since 1985 with their two daughters, and have always conserved energy and water in the home. Jeffery has always encouraged an economical approach to electricity use.

Now retired, Jeffery (an ex-employee of Seeboard Electricity for 31 years) and Brenda have taken their conservation approach further, installing solar thermal water heating in 2006 and photovoltaic panels in September 2011 with Southern Solar, a Lewes based company and 'the nicest contractors we've ever dealt with!' They received a council and central government grant to subsidise the solar thermal system. Their reasons were to save money, but also to improve their sustainability and property value.

In Jeffery's records of utility bills, for this and their last home, reductions can be seen since the cavity wall was insulated; the solar thermal panels were installed; and loft insulation was increased to 300mm. Jeffery calculates savings of up to 50% for gas and electricity in the best years. Even in the severe winters and poor summers of 2009-11 consumption has been significantly below historic levels.

### Features

#### Energy efficiency measures

The house is well insulated, with the loft insulation having been upgraded to 300mm and cavity walls insulated. All lighting is with compact fluorescent light bulbs and the appliances are 'A' rated, including a Bosch freezer. Jeffrey's record keeping of gas and electricity make it easy to directly see the impact of the various energy efficiency measures on the levels of gas and electricity used and the CO<sub>2</sub> emissions reduction that has resulted. All gadgets are always turned off and never left on standby. In total there is an annual saving of 59% on gas usage at best and 51% on electricity against their 2003-4 usage.

#### Renewable energy

In 2006 a solar thermal system was installed, which has helped virtually halve the gas bill. The system is a 4m<sup>2</sup> Stamax Filsol flat plat on a southwest-facing roof, and as a permitted development, planning permission was not required. Hot water is generated on average for 5.5 hours every day of the year, ranging from 0 hours in winter to 11 hours in summer. The hot water is stored in a 210 litre vented storage cylinder, which after a sunny day is hot enough for two morning baths and all daily hot water needs, without the boiler going on at all.

In September 2011, 12 Sanyo 235W panels are being installed with a notional output of 2.82 kWp. Estimated annual yield is 2300 kWh, about two thirds of the family's annual consumption. They will also benefit from the Feed in Tariff.

### CO<sub>2</sub> savings

All of the energy saving measures and renewable energy systems not including the PV (no data for this yet!) have meant that over the last five years Jeffery and Brenda have reduced the CO<sub>2</sub> emissions from energy use in their Edwardian terraced house by between 40-55% (against their 2003-4 consumption) varying with cold winters and overcast summers.

*Note: calculation assumes a CO<sub>2</sub> conversion factor of 0.517 for electricity and 0.198 for gas.*

### Water

The water using appliances are 'A' rated and are all low fill, including a Zanussi washing machine and dishwasher. The washing machine uses 44 litres and 0.95 kWh for one cotton wash at 60 degrees, and the dishwasher is only used when full.

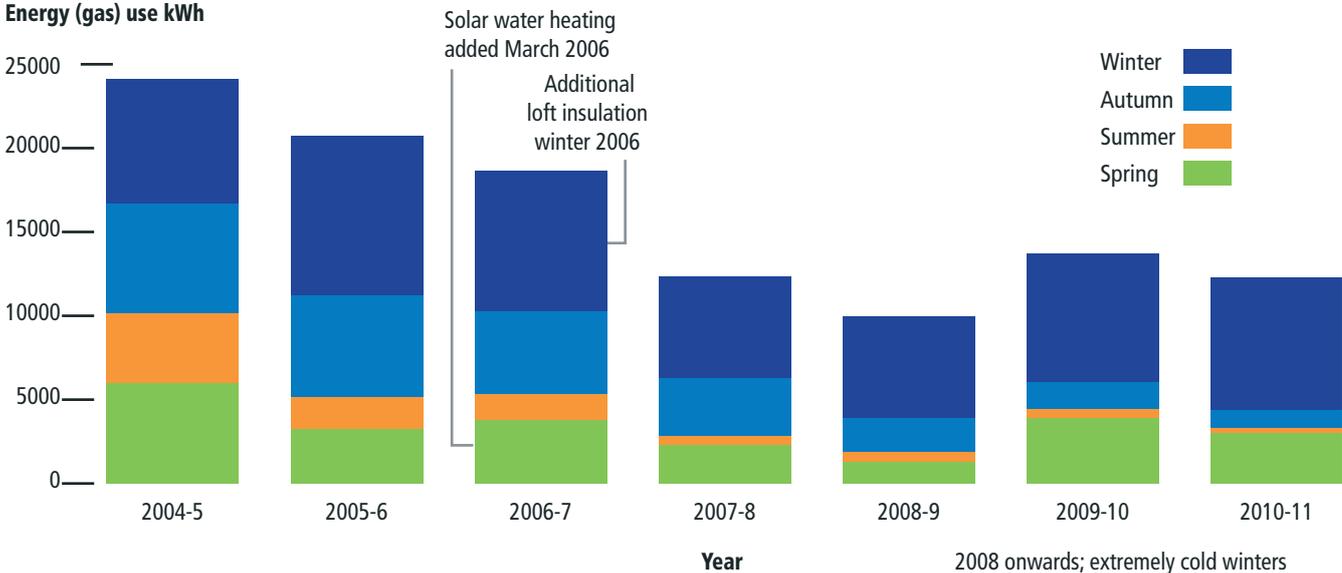
### Professional contacts

Southern Solar – [www.southernsolar.co.uk](http://www.southernsolar.co.uk)

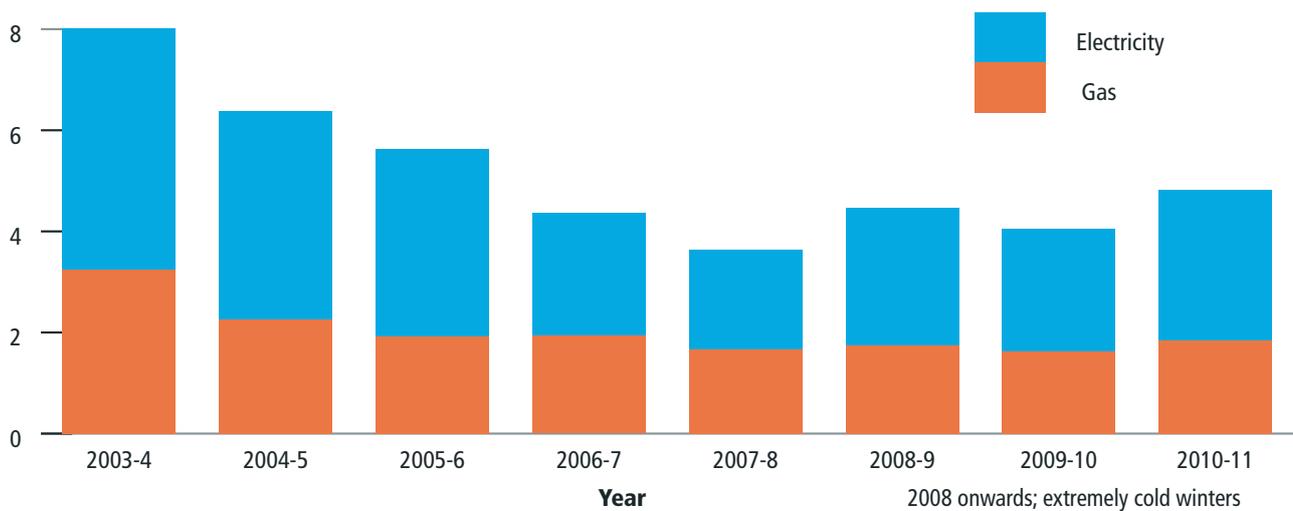
### Grants

Brighton & Hove Energy Grants scheme  
[www.warmfront.co.uk](http://www.warmfront.co.uk)

Energy (gas) use kWh



Carbon emissions Tonnes CO<sub>2</sub>



Eco Open Houses is an annual collaborative project between Brighton Permaculture Trust, Low Carbon Trust and Brighton & Hove City Council. This year the event is run as part of the EcoFab 2 project and has been selected within the scope of the INTERREG IV A France (Channel) – England cross-border European cooperation programme and is co-financed by the ERDF

