

# 55 Fairfield Road

This is a terraced Edwardian brick house (1905).

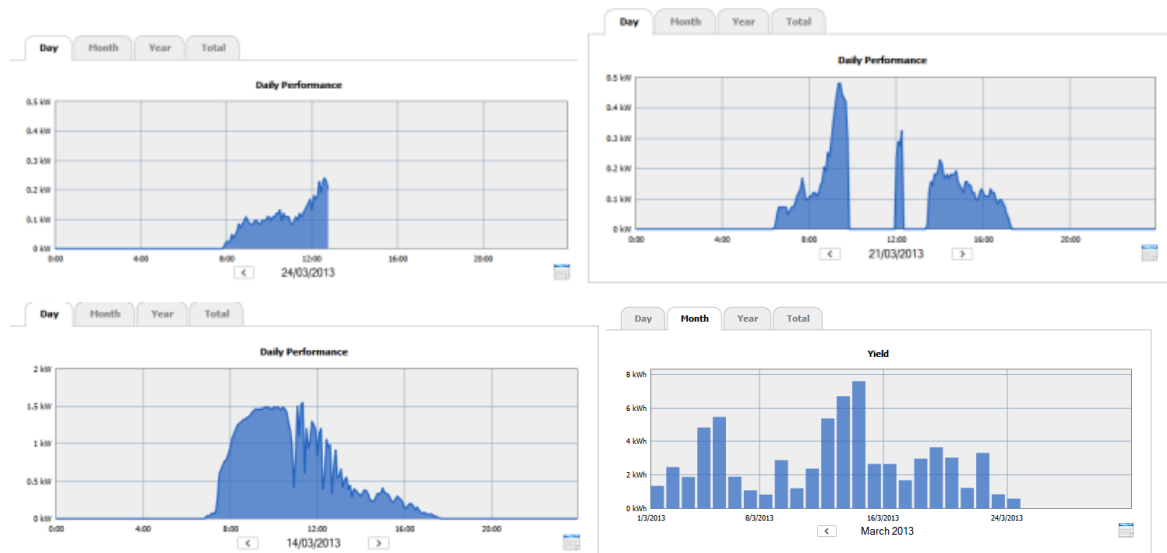
## Photovoltaic Panels



We have installed photovoltaic panels on an east-south-east facing rear roof. It is too soon to know how much they will produce per year, and it has been the wettest recorded year in England. Most electricity is produced before 2pm. In the six winter months they have produced 540 kilowatt hours, but we hope annual production will be at least five times that.

Daily figures are increasing rapidly.

We can monitor electricity production in detail on the computer. The chart below show what has happened to-day, when there was a power cut, on a good day, and this month.



We missed the very generous first tariff so we qualify only for 16p per kWh. How quickly the installation will pay back its cost will depend on how quickly electricity costs increase. We use between 4 and 7 kWh per day, so on reasonably bright days in the best 6 months of the year, we will produce at least as much as we consume. They were fitted by Southern Solar.

## Windows

We have replaced most of our sashes with new double-glazed ones. These are almost replicas of the original, with thin krypton-filled cavities and draught excluding trimmings, and a glass u-value of 1.6. It was not necessary to replace the boxes. The suppliers were the Sash Window Consultancy ([www.sashconsultancy.co.uk](http://www.sashconsultancy.co.uk)) We have also applied very cheap and effective secondary plastic film window glazing in one place; surprisingly robust with a casement window. More permanent secondary glazing would be even better.



## Heat Exchanger Ventilation

We worried that we were losing heat when we opened the windows but the draught exclusion meant the house could get stuffy. We therefore installed two heat exchanging fans. They are “Ventaxia Lo-Carbon” fans. The one in the bathroom accelerates when the air is damp, and the one in the lower toilet accelerates when the light is on. They are switched off for most of the time, but they are very effective for sporadic interventions. They fit in normal 4in holes and have obviated the need for a full-blown heat exchanging ventilation system, or the opening of windows (with its massive heat loss) which is often necessary when draught exclusion is fairly effective.



### **Insulation**



We wanted to keep our polished floorboards, but found our feet were cold in the winter, so we put insulation under the floorboards; it is supported by battens nailed to the joists – no need now for slippers. We have also had our cavity walls filled with rockwool. Even though our house was built in 1906 it had cavities, and the wall ties were zinc, so they will not go rusty (unlike steel ones). Injection holes can be seen on the outside but are not too obtrusive. The roof is insulated with high-density panels which meant the snow this winter took a long time to thaw.

### **Heating**

We have a condensing boiler and thermostatic radiator valves. We have not installed thermal water heating panels, but may try to exploit the south-facing roof one day. We have applied DIY draught stripping to doors, and this has been very effective.

### **Lighting**

We have replaced nearly all our tungsten incandescent and fluorescent bulbs with LED lights, and spent some time trying to find suitable lightshades. Very bright examples of GU10s are obtainable cheaply from Robert Dyas (£5). We have a Lumiance track spotlight panel (LED cool white).

### **Other Gadgets**

We use remote eco-switches for easy switching things off instead of using standby. Appliances vary in how they behave when you switch them back on (some remember settings, some don't).

We have a meter that measures how much energy is passing through a single socket which we use to test appliances and a meter that measures current remotely. It adds incoming to outgoing electricity, so we now use it only to measure current from the PV cells. It is clipped to the line between the PV cells and the PV meter

The cat happily uses a double cat flap built through the wall.

