

## who has got energy for life?

### name

**Roger**

### occupation

**Self Builder**

### location

**Home**

### introducing Roger

Roger and Liz live in a beautiful home which even they describe as a “pretty radical design”. The building has a curved footprint which “came about because of the shape of the plot” and they “wanted the sun to reach the maximum area of the building through the day. There is only one room in the entire house which has four square walls and that is the boot room, everything else has subtle curves or angles. The credit goes to the builder, Mike Canham; every single piece of wood was cut by hand and built by eye mostly.”

“the important thing is we absolutely love it”

After three failed attempts they finally found an architect, Richard Scales, who was up to the job of producing this design “he came up with the final solution and what a wonderful one it was too”.

It has been a challenge “to balance the eco-friendly features against the cost and our taste”, but Roger feels quite satisfied that they “have managed to strike a balance.”

Integral to this incredible design you will find discretely embedded its sustainable eco friendly features painstakingly researched and doggedly pursued by Roger. **“The potential of this house is fierce, it is thermally very efficient, it makes its own electricity and it uses a ground source heat pump for the heating.** It has the potential to be very economical, **it just depends on how high you set the thermostats and how many light you leave on, that is a lifestyle choice.”**

Even the sustainability of the materials used to build have been fastidiously researched “there are virtually no volatile gases given off inside the house. The wood is untreated, where it is been impossible to avoid MDF I have used ZFMDF (zero formaldehyde MDF) and all of the paints and glues are water and clay based. There are some things you have to compromise e.g. sealants you just can’t do without them but they do contain some nasties.”

Running across the centre of the building, **the semi transparent Photovoltaic roof lights “were integral from the beginning and to the design of the house.** They were featured in the design spec right from the very start so you could say they have influenced the look of the house.”

“I am glad we chose 50% transparency, we are able to **bring light into the centre of the house and it creates this amazing feature of light on the walls,** trapezoids created by the shadows on the wall move and change shape throughout the day, even at night with a full moon. They have been a very successful feature; **it doesn’t have to be an absolutely blazing day to be putting out 2000W.**”

“So **from the performance, the functionality and as an integral design feature I think it (PV) has been very successful.**”

The house now attracts its fair share of visitors, “they fall into two categories; people who come expecting an eco-house and are surprised by its style. Other people come expecting a ‘Grand Designs’ house and are surprised by its simplicity.”

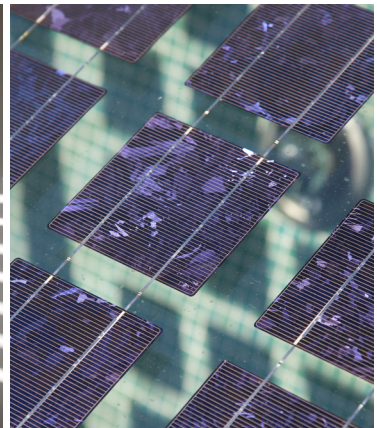
“The important thing is we absolutely love it.”

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## Roger's home

Running across the centre of the house is the semi transparent Photovoltaic roof light, the cells are embedded into the glass, each piece of glass has been custom designed and made to fit perfectly within the curving roof light.

The space between the cells in the glass have been opened to allow 50% light through, the resulting light and shade thrown through the middle of the home is spectacular, casting a constantly moving pattern across the walls throughout the day.



### solar photovoltaic solutions

Integrated atrium

area (sqm)

23

size (kW)

2.3

### project details

Customer

Roger

Type of building

Home

Date completed

2006

Location

Suffolk

### carbon saved / energy generated

Annual carbon saving

0.8 tonnes

Lifetime carbon saving

27.1 tonnes

Annual energy generated

1800 kWh

For further information on other innovative ways of incorporating renewable energy in your building see our Solution Sheets.