

# 106 Prince Edwards Road

**Address:** 106 Prince Edwards Rd, Lewes BN7 1BH

**Owners:** Peter and Louise Wingate-Saul

**Type:** Detached

**Built:** Newbuild

**Beds:** 4

**Walls:** Mostly timber framed

**Residents:** 3 adults, 1 child

## Book Tour

[Saturday 22nd October](#) [1]

[Sunday 23rd October](#) [2]

## Features

- Integrated solar roof
- LED and CFL lighting
- Low energy appliances
- Mechanical ventilation with heat recovery (MVHR)
- Passive solar gain (glazed southern facade)
- Thermal mass (polished concrete floors)
- Solar PV (3.41 kWp)
- Solar thermal
- Superinsulation
- Underfloor heating

## Summary

This modern house replaces an old bungalow which previously stood on the site. When Peter and Louise acquired the property they decided to hand the design and build to local architects, BBM, and well regarded builders Brian Huntley Ltd of Seaford.

To maximise space, they dug out 300m<sup>3</sup> of chalk to create a new open plan garden level. The design is structurally lightweight, being largely timber framed, but with solid floors to give enough mass to stabilise temperatures. Walls, floors and ceilings were all superinsulated with u-values for roof 0.09 // floor 0.16 // walls 0.14. This is coupled with airtightness plus an MVHR to provide energy efficient ventilation.

Heating is via a gas condensing boiler, but the glazed southern facade enables solar gain in winter to make a big contribution. Similarly, solar thermal panels feed a 500 litre store, to provide most of the hot water from spring to autumn.

The roof is particularly interesting with integrated Solar Thermal and PV panels, coupled with opening skylights which fill the upper rooms with light. These renewables have Bluetooth output to give fascinatingly detailed data on performance.

The exterior is handsomely finished in slate at the front, with timber cladding wrapping round the sides and the rear.

## Lessons Learned

The lower ground floor living room can become warm in summer from sunshine through the glazed facade. This was originally intended to be countered by 'brise soleil' shading, but was dropped due to cost. Instead, this has been managed by using recycled sails to create an elegant shaded area outside the living space.

The first floor living space avoids this problem as the building overhang limits the sunlight entering the room.

The Swiss-made, integral solar roof tiles proved difficult to source as the only UK supplier ceased trading. This meant that they had to be couriered from Switzerland which was troublesome and expensive. Nevertheless, the finished result is extremely effective.

The MVHR system is needed in order to provide the airtight structure with good ventilation and heat distribution, rather than energy saving. It uses around 1100 kWh of electricity, which is closely balanced by the 2000 kWh of gas energy that it saves. Even so, it performs excellently to give a healthy, well-regulated environment.

## Professionals

Architects: BBM Sustainable Design, Cooksbridge. [www.bbm-architects.co.uk](http://www.bbm-architects.co.uk) [3]

Builder: Brian Huntly Ltd, Seaford. [www.bhbltd.com/profile.htm](http://www.bhbltd.com/profile.htm) [4]

Solar Thermal: DH Solar Engineering, Lewes. [www.dh-solarengineering.co.uk](http://www.dh-solarengineering.co.uk) [5]

Solar PV: Eco Hi Solar, Hove. [www.ecohisolar.co.uk](http://www.ecohisolar.co.uk) [6]

## Gallery

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### Links:

[1] <http://lewesecoopenhouses.org.uk/booking#PrinceEdwards22nd>

[2] <http://lewesecoopenhouses.org.uk/booking#PrinceEdwards23rd>

[3] <http://www.bbm-architects.co.uk/>

[4] <http://www.bhbltd.com/profile.htm>

[5] <http://www.dh-solarengineering.co.uk/>

[6] <http://www.ecohisolar.co.uk/>

[7]

<http://lewesecoopenhouses.org.uk/sites/lewesecoopenhouses.org.uk/files/images/106princeedwfront2.jpg>

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