

1 Tivoli Copse, Woodside Avenue, Brighton BN1 5NF



Overview

Period/ Age of house	Modern – 1977
Type	Detached
No of years in residence	14 years
No of residents	2
No of bedrooms	5
No of other rooms	4
No of floors	3
Wall type	Cavity

Features

- + High performance glazing
- + External wall insulation
- + Natural materials
- + Wood burning stove

Introduction and approach

John and Maggie first moved into this detached five bedroom house 14 years ago and have been renovating different aspects over time.

Recently they have insulated some of the external elements of the building; the walls and ground floor – the motivation being to reduce energy bills and increase the value of the house.

The front wall has been externally insulated and then re clad with Thermowood pine timber cladding. An issue with the house has been the annual painting that was required to maintain the timber façade, so it is anticipated that the new cladding will be lower maintenance.

Other walls have been insulated; the internal walls between the garage and lower hall and the cavity walls sides and rear of the house have been filled.

Also, the windows have been upgraded from single glazing to 'A' rated double glazing, which are locally manufactured using Accoya wood, sustainably grown softwood that is pressure treated with vinegar to make it long lasting and durable.

As the house stands on the hills above Preston Park, whilst visiting this house you can enjoy some of the most amazing views in Brighton!

Thermal improvements

Walls: the walls have been improved with insulation. The south east wall has been externally clad with 60mm phenolic foam external insulation and then timber, improving the u value (flow of heat energy) 2.0 to 0.19. The sides and rear walls have cavities which have been filled. This has improved the u-values from 1.4 to 0.37. The internal garage wall has been insulated with 140mm mineral wool, improving the u-value from 2.0 to 0.27.

Floor & loft: the floor between living rooms and garage has been insulated with 200mm mineral wool between the timber joists. The loft has been upgraded with 200mm fibreglass insulation.

Windows: 'A' rated timber framed double glazing has replaced former very draughty and cold single glazing. Heat loss has been cut by 75/80%.

Heating systems

The gas boiler augmented by wood burning stove. The wood burner alone is used in spring and autumn, without a need to use gas. Solar panels were not possible due to overshadowing and the pitch of roof.

Use of materials

Synthetic insulation was chosen for its high performance, but natural materials were used in the timber windows and external Thermowood cladding.

Water efficiency

The water meter is regularly checked to monitor usage and hose pipe use is avoided.

Further improvements planned

Possibly externally insulating the remaining side and rear cavity walls.

Lessons Learnt

Planners insisted on before and after drawings before allowing external insulation, due to change of appearance. This was complicated and time consuming.

Professionals/weblinks

Cavity wall insulation – RS Insulation: <http://www.rsinsulation.co.uk/>

External insulation & wood cladding – AJN Builders: www.ajnbuilders.com

External insulation – Kingspan Kooltherm K5 Phenolic board: <http://www.kingspaninsulation.co.uk/>

Timber cladding – Vincent Timber Thermowood D Thermal timber cladding: <http://www.vincenttimber.co.uk/products/thermowood/index.html>

Manufacture & installation of Accoya windows – Westgate Joinery Ltd: www.westgatejoinery.co.uk.
Information about Accoya: www.accoya.com

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