

Silver Grove, Nutters Close, Grantchester - CB3 9NS

Arts and Crafts inspired self-build with emphasis on timber features coupled with green technology

Meet your hosts, Michael and Pippa

This beautiful self-build family home in Grantchester is the product of architect Michael and author Pippa's imagination and yearning for home. Built with a William Morris sensibility for form and function the house is individually crafted but also full of modern eco technology. The result is a creative, low-energy modern home with a timeless look that fits in well with the vernacular architecture of Rupert Brooke's village. It feels like there will always be honey still for tea.

The living/dining room is the hub of the house and the space from where all the main rooms and the front and back garden are accessed. The central staircase unites the ground and the first floor, and the large north facing roof light draws daylight into the staircase and consequently the rest of the house. With glazed sliding folding doors leading to the back garden, the loggia and patio become an extension to this space, to create an open, light airy yet cosy, intimate and flexible space. Architecture is the creation of qualities of space. In this case the eye, mind and body moves easily around the house and between the house and garden.

Construction

Although the house is built on land belonging to the family, Michael and Pippa had to overcome several planning obstacles, mostly to do with access. They decided to keep the shape and construction of the house fairly simple. The walls are standard brick and block with an insulated cavity. There is additional upper story cladding of waney edged elm planking with oak framing to give it that Arts and Crafts movement look. This is complimented by a beautiful oak framed porch with cedar shingles.

Michael describes himself as architect to Pippa's client. Working closely with joiner and foreman Norman Wells, alongside a carefully assembled team of tradesmen, he was also able to respond quickly, often in artistically satisfying ways, to the demands of construction. For example, commissioning handmade tiles at very short notice. There are beautiful features by stone-mason Eric Marland, stained glass artist Susan Moxley and Pippa's artist sister Jo Eddleston.

Material choice

The exterior fabric choices of elm, oak and cedar, are matched by the significant use of wood interiors, including wooden floors, lime-backed wooden bookshelves, the central oak staircase. The oak and slate fire surround is also complimented by the hand-crafted slate kitchen worktops.



www.openecohomes.org

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Energy choices

The area of the insulated envelope of the building is low compared with the floor area. The spacious loft is a useful extra 'cold' (unheated) space, with 250mm of insulation packed between and above the first-floor ceiling joists. The external walls have 100mm Dritherm cavity insulation and thermal blockwork. There is 100mm rigid insulation between the screed and suspended ground floor.

Apart from the wood burning stove the house is heated by an air source heat pump via underfloor heating on both floors. There is also integrated solar thermal roof panels for hot water and a large roof integrated 5kWp PV array for electricity generation. Because these were both integrated into the roof they stand out much less than conventional panels. They also brought a cost saving on roofing materials.

Passive solar gain and natural daylighting

The roof eaves project more than a metre in front of the south wall. This shades the balcony and first floor windows from the high summer sun while allowing the low winter sun to shine through the house. The same effect happens at ground floor level where the cantilevered balcony projects in front of the glazed patio doors.

Performance

Since 2012 average energy usage is 11,600 kilowatt (kW) hours per annum (hrs/pa) and PV generation is 3622kW pa. Total usage to 7th May 2018 was 69,548 kWhrs (44,659 peak and 24,889 off-peak). Total generated from PVs was 25,301kW.

The Garden

The garden provides most of the household vegetables and much of the fruit. Hens provide household and neighbours with eggs. Three rainwater pipes fill waterbutts and a fourth replenishes a garden pond.

This case study contains information drawn from Mark Brinkley's *Housebuilder's Bible, tenth edition (2013)*.

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Property age: 2012

Type: Detached

Project Timescale: July 2011-June 2012

Wall type: Cavity walls with thermal blockwork and waney-edged elm cladding

Floor area: 213m²

Cost of build: £343,000 + £350,000 for the plot + planning costs of £10,000

Occupants: Two adults (and three daughters intermittently)

Key features

Insulation and glazing

- Cavity insulation
- Spacious and insulated loft space
- Double and triple glazing

Heating and energy

- Air source heat pump
- Underfloor heating on both floors
- Integrated 5kWp PV array
- Integrated solar thermal panels
- Computer controlled lighting system
- Wood burning stoves

Materials and other features

- Cedar, oak, elm, Lake District slate, Hoskins 'Old Duxford' bricks
- Wheelchair accessible ground floor cloakroom and bedroom with wet-room
- Landing library leading to cantilevered balcony

Key contacts

Architect/Project Manager: Michael Goodhart
[\[Website/contact\]](#)

Foreman: Norman Wells,
norman.wells1@ntlworld.com

Groundworks, landscaping: Bowie Construction,
www.bowieconstruction.co.uk

Roofing and PV: Bowler Solar, www.bowler.com

Joinery: Just Wood Joinery, 01487 812716

Brickwork: Malcolm Bird, 01638 507658

Heating and plumbing: David Lowe,
www.loweheat.com

Electrics: Jonathan Coad

Kitchen: deVOL kitchens, 01223 840219

Slate: Burlington Stone, www.burlingtonstone.co.uk

Lighting: Lighting Sensations
www.lightingsensations.co.uk

