



## Leveret Croft Hathersage

Leveret Croft is a timber chalet built about 1900 and renovated 1997-2002 to a design by Andrew Yates of EcoArc, with an extension by Andrew de Carteret of Studio DC in 2013. The aim was to build an energy efficient home with lots of natural light. The 4 acres around the house has been developed as a 'wild garden' to encourage wildlife and restoring natural habitats. There will be a tour of the house, barn and land.

### Meet your hosts Stephen and Scharlie Platt

We fell in love with this house after walking down Leveret Lane in a snowstorm and were invited in for tea by Jack Curtis who had lived in the house since 1922. We bought it 8 years later in 1996 at a nail-biting auction in Hathersage and it took us 4 years to renovate it, working weekends and holidays. Leveret Croft was originally built as an Alpine chalet by ski loving Jarvis Barber from the Head Farm and his two pairs of wooden skis, with their Kandahar binding and bamboo poles, now hang in our office.

### Key features

- clad in sustainably sourced cedar and roofed in Onduline bituminised sheets
- 6" mineral wool insulation in walls and 10" in roof; 16" polyurethane slab
- Argon filled double-glazed windows and highly insulated doors
- 4kw solar panels

### Insulation

We took off the outside cladding and roof sheets to insulate and used only mineral wool and fibreboard to insulate all walls, floors and roof. On a still day our house is snug but, at 1,000 feet facing south-west, it can be very windy and the timber cladding and mineral wool insulation proved too draughty, so in the extension we used tightly fitted Kingspan sheets.

### Windows and doors

Being so exposed we wanted high performance windows and doors, wood rather than plastic and also to keep the original glazing bar design. We opted for Ideal Vinduet windows and doors from Denmark that could be made to measure and factory finished with Randi Line CF Møller stainless steel fittings. The front of the house is very exposed. The two windows and patio doors failed and were replaced by similar wooden profile units from Rationel Windows, Denmark. These are low maintenance Alu-Clad powder coated aluminum over wood and are performing well. On the barn we used NorDan windows and doors from Norway. These were cheaper, performed better than the Ideal Vinduet, but are not as good as ALU-Clad Rationel.

### Reconfiguration

We wanted the house to have a much more open feel, so we knocked one of the two front bedrooms and store cupboard into the front sitting room and did the same in the kitchen, combining three rooms into one. These two spaces, the kitchen-diner and sitting room now, wrap around the central brick chimney which acts as a heat store. We built a room where the old lean-to had been which acts as a utility and boot room.

### Heating and renewable energy

There is no mains gas so we installed an LPG fired condensing boiler in 1997 to heat water and to fire a conventional water-filled radiator system. The boiler was replaced after 20 years in 2017. We kept the old range, which for the first couple of years was our only source of heat, and installed a Vision 6kw Clearview wood stove in the front room and a 4kw Pioneer Clearview in the back office. We burn seasoned wood from our own coppiced woodland. We installed 3.9kWh of solar in 20 panels on the barn roof in 2011 at a cost of £12,695. This produces 3,200kWh per annum and the payback, with the full FIT, was 8 years. We are about to install a B-Snug Passive Systems hybrid air-source heat pump with a projected fuel saving of 23%.



## Water supply

Our water comes from our own spring under the back of the house and is filtered for sediment and pumped automatically up to an insulated 9,000 litre tank at the top of the garden. To prevent freezing the pipes are wound with Astec heat trace cable. The water then enters the house under gravity like a normal mains supply and passes through a UV filter. Being on Gritstone, the water is soft and delicious.

## Appliances and life-style

All appliances are Energy Rated A++ and most of the lighting is either LED or low energy fluorescent. We are fairly energy conscious and make sure we turn lights and equipment off. And we have an electric bike and do most of our shopping locally in the village. Although we are now semi-retired, our work has always been in Cambridge. We have also been living in the Peak District, first in Winster, then Bamford at the Quaker Community and finally here in Hathersage. This has meant a lot of car travel. We have however halved our journeys by staying much longer in each place. We aim to change to a non-ICE vehicle as soon as possible. Could mention offsetting?

## Finishes

The cedar timber cladding is untreated but the windows and doors have been repainted using Sadolins Super Dec water-based paint. Inside we used Farrow and Ball and Fired Earth paints both because they are non-toxic and the 'knocked-back' ochre tones suited the Scandinavian feel of the house. All rooms get light from two sides, so how colours work in different light is important.

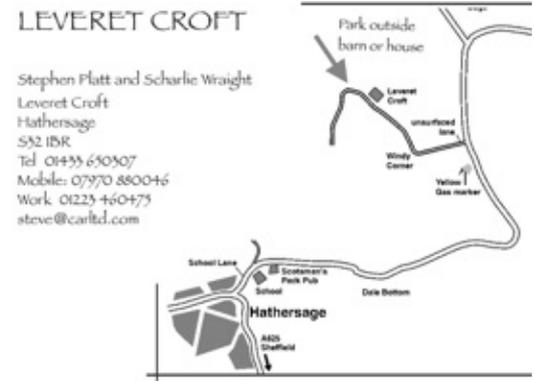
## Performance and what we would do differently

The house performs well except on windy days. With hindsight we should have made sure we achieved better air tightness or have used Kingspan polyurethane insulation instead of Rockwool. Had we done so we might have halved our annual energy use on heating and saved nearly 2 tons of carbon. On such an exposed tree-covered site with lots of leaf fall and moss the Onduline sheet was not as durable as expected and only lasted 16 years. On the barn we replaced it with Accord corrugated powder coated steel which looks much more durable.

## Garden and land

The acre of wild garden around Leveret Croft was an intake from the moor and planted with oak in the early 19th Century. The house is still surrounded by trees, with a tall ash and sycamore almost touching the house on either side. On the 4 acres of land over the lane there are five ponds, a wildflower meadow, an allotment for vegetables and soft fruit, an orchard of plum, damson, bullace and apple, and an acre or two of woodland. We receive a small annual grant from the PDNPA for managing the meadow and ponds and have also received grants for re-walling.

In managing the land, we followed the basic principles of 'wild gardening' in observing and learning from experience and doing everything we can to encourage wildlife, including not using herbicides and pesticides and creating habitats for birds, mammals, insects and amphibians. We have made bird boxes, which have successfully helped raise multiple broods, and are hoping to attract swifts.



## Overview

*Property age:* Built 1900; renovated 1997-2002.

*Type:* Detached

*Wall type:* Timber frame, cedar clad on outside with roll-bead vertical pine boarding inside

*Floor area:* House 220m<sup>2</sup>, plus basement 36m<sup>2</sup> and underground garage 30m<sup>2</sup>. Barn 100m<sup>2</sup>.

*Cost:* Renovation £139,280; Extension £43,179

**Energy Use 2019:** Electric 3370 kWh; LPG 14,500 kWh; Car mileage 12,364; Wood 5,800 kWh (from own sustainably coppiced woodland)

CO2 (tonnes)	2019	2020
Electricity	0	0
LPG	3.5	3.2
Motor Car	3.9	1.9
Food	1.8	1.9
Share Cambridge house	1.0	0
Flights	1.5	0.4
<b>TOTAL (2 people)</b>	<b>11.7</b>	<b>7.4</b>

## Contacts

*Architects:* Andrew Yates, [EcoArc](#); Andrew de Carteret, [Studio DC](#)

*Structural Engineer:* Phil Cooper [CAR Ltd](#)

*Carpenters:* [Peter Trower](#) (exterior house exterior); [Brad Hurst](#) (barn and extension)

*Builder:* Ted Schofield (utility room, basement and underground garage).

*Waller:* David Sampson; *Tiler:* Mike Buccieri; *Hertalan Roofer:* Terry Burgess

*Electricians:* Alan Baddams; Peter Austin; *Plumbing* Mark Coyle [UGS](#); *Painter:* John Gregory

*Water system:* [Marshall Pumps](#)

*Solar:* [Midsummer Energy](#)

*Site works:* Gordon Whittaker; Andrew Marsden.

*Lane surfacing:* [Gary Fletcher](#)

**Suppliers:** *Windows and doors:* [Ideal Vinduet](#), [Rational](#), [NorDan](#); *Insulation:* [Sheffield Insulation](#); *Glass:* [Sheffield Glass](#); *Cedar:* [Capricorn Timber](#); *Timber* Eyres and Laver Brothers