

Lewes Eco Open Houses

The weekends of 13/14 and
20/21 September 2014

Visit inspiring
newbuild and
renovated
houses that have
drastically
cut their energy
and water bills.

Entry is free,
but visitors are
encouraged to
make a donation
to contribute
towards costs.

www.lewesecoopenhouses.org.uk



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Lewes Eco Open Houses 2014

The weekends of **13/14** and **20/21** September

Welcome to the 2014 event, which includes 16 houses, 6 of which are opening for the first time.

Lewes Eco Open Houses is happening over two weekends. The first features houses mainly in Lewes itself and will run on 13th-14th September.

The second focuses on properties mainly in the surrounding villages with exciting off grid measures such as air, ground and water source heat pumps. This runs on 20th-21st September.

Other events worth visiting are

Ovesco's community energy day on the 19th September at the Linklater Pavilion

Making Lewes' exhibition and series of talks on sustainable architecture (see makinglewes.org)

Reasons to visit

See houses cutting **80/90% off energy costs**.

Learn what succeeded and what didn't.

Ingenious and **cheap ideas** for cutting energy use.

Recommendations for local green professionals.

See **Green technology** at work.

Get ideas for **sustainable lifestyles** – vegetable growing, rainwater harvesting, natural materials.

Above all, **Inspiration!**

Visit **www.lewesecoopenhouses.org.uk**

for more information on

- Houses and their features, plus more photos and factsheets
- local professionals
- funding and grants

Organised by the Energy Group of Transition Town Lewes in collaboration with Barcombe Energy Group and Hassocks, Keymer and Ditchling Transition



Visiting the Houses

This event is free and everyone is welcome. But remember that householders are generously opening up to the public and please respect their homes. For guidance here are a few basic rules.

-  Opening days and times can vary from house to house, so please check before turning up.
-  Morning opening is normally from 10am–1pm and afternoons from 2–5pm, but do check individual house details, as some vary.
-  Please do not call between 1–2 pm, to give the householders a break for lunch. Also remember that by 5pm householders will be tired and would probably like to close on time.
-  At some houses you may be asked to remove shoes
-  Normally the visit and discussions take place in the reception rooms of the house, with the householder accompanying groups to see any equipment elsewhere. Please do not wander throughout the private areas of the house.
-  Children will need to be supervised during the visit.
-  Sorry, no dogs. It would be much easier if they were left at home.
-  Please try and walk/cycle/use public transport to visit homes, although we appreciate that cars may be necessary for the outlying ones.
-  Parking can be very restricted at some locations, so see individual house directions for information.



13 St. James St
Lewes BN7 1HR

Type

Mainly 19th Century semi detached, brick and tile clad

Owner

Kevin West and Helena Pickup

Eco Features

Condensing boiler
Sun tubes
Solid wall insulation (internal and external)
Warm roof insulation
Woodburning stove
Food cultivation
Rainwater harvesting

CO2 emissions (estimated)

2.6 tonnes p.a., 50 % less than average household

Open

Saturday 13th September
10–1, 2–5
Sunday 14th September
10–1, 2–5



When Kevin and Helena bought his house in 2007 it was so poorly insulated that the washing machine froze indoors in winter! That, plus a commitment to sustainability, prompted them to overhaul the insulation and make it as cosy as possible.

This has gone through several stages, starting with a well insulated extension built in 2010, attic room ceiling, wall and loft insulation in 2012, solid wall insulation within the bedroom walls in 2013 and the current major phase involving external wall insulation in 2014.

One particular problem was the house's unusual spiral staircase addition, which used to suck heat up and out. However, with external insulation and almost all windows double or triple glazed, this problem has now been solved and the building is comfortable and economic to live in.



8 St. James St
Lewes, BN7 1HR

Type

2 bed brick end-of-terrace,
built 1789 (very thin walls)

Owner

Neil Williams

Features

- Attic insulation
- Condensing boiler
- LED lighting
- Low energy appliances
- Secondary double glazing (magnetic)
- Solid wall insulation (internal)
- Underfloor insulation
- Woodburning stove

CO2 emissions

3.2 tonnes p.a., 41% less than
average household

Open

Saturday 13th September
10–1, 2–5
Sunday 14th September
10–1, 2–5



In August 2012 Neil bought this house, which had little or no insulation and very thin brick walls. In a rather hectic four week period prior to moving in, the lath and plaster attic was stripped and solid wall insulation was fitted internally in the two reception rooms.

Subsequently, the attic was rebuilt using high levels of insulation, to put a snug cap on the house.

A woodburning stove was added to the front sitting room, with the floor insulated from below.

All lights were replaced with LED and CFL and new appliances were A to A+++.

Cheap and near invisible magnetic secondary double glazing has been fitted where possible. This is a work in progress, done to apply in practice principles learned from an MSc in Sustainable Architecture from CAT in Wales.

The overriding aim has been to go for the most cost-effective and carbon reducing measures, and exploring DIY solid wall insulation.



12 Pelham Terrace
Lewes, BN7 2DR

Type

Mid 19th century 3 bed
terraced

Owners

Hazel and Patrick Collinson

Eco Features

- Condensing boiler
- Green roof
- Low energy lighting
- Low energy appliances
- Natural materials
- Solar gain
- Solar PV (1.75 kWp)
- Solar thermal
- Water conservation

CO2 emissions (estimated)

3.2 tonnes p.a., 40 % less than
average household

Open

Saturday 13th September
10–1, 2–5
Sunday 14th September
2–5 only



The work at this house was inspired by Patrick and Hazel's son, Joe, who has a background in architecture and is committed to using natural sustainable materials when eco renovating houses.

The main impact in terms of insulation has been the flat roof insulation, which has dramatically reduced roof losses and has the added bonus of creating green roof areas to support wildlife habitat.

Joe was also responsible for the design and construction of the light and airy extension, made almost entirely from breathable materials, yet with very high levels of insulation. Even in winter, this can be used as a warm patio room, largely heated by the sun, with minimal extra input needed.



10 Sheepfair, Nevill,
Lewes BN7 1QH

Type

1950s 3 bed semi-detached house, refurbished 2009

Owners

Ann Link and Richard Hudson

Features

- Condensing boiler
- Cavity wall insulation
- High performance double glazing
- Solar PV (1.5 kWp)
- Solar thermal
- Solid wall Insulation
- Sunpipes
- Woodburning stove with back boiler

CO2 emissions

1.1 tonnes p.a., 80% less than average household

Open

Saturday 13th September
10–1, 2–5
Sunday 14th September
CLOSED



In 2008, Ann and Richard moved to this 1950s house which was smaller than their previous Victorian terraced home. The house was high on the Downs, where it can be windy and cold, and had solid floors, double-glazing and insulated cavity walls, but little other insulation or draught-proofing. The existing bedroom and bathroom in the roof space were particularly difficult to insulate effectively.

Under the advice of consultants Maria Hawton Mead, and Ken Neal, they embarked on a total refurbishment including super insulation, solar PV and thermal, and a wrap around conservatory to trap heat in winter.

Gas use is also extremely low because the bulk of space heating comes from the powerful centralised wood burning stove.

Electricity has also been minimised by using low energy lamps and installing two sunpipes for natural lighting.

The end result has been greatly reduced consumption, which has qualified this house for inclusion as a Superhome, which demonstrates a minimum 60% energy reduction.



106 Prince Edwards Rd
Lewes BN7 1BH

Type

Newly built 4 bed detached house

Owners

Peter and Louise Wingate-Saul

Features

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

CO2 emissions

Estimated to be below 2.0 tonnes p.a., 60/80% less than average

Open

Saturday 13th September
10–1, 2–5
N.B. Entry only on the hour for tour at 10, 11, 12, 2, 3, and 4.
Please arrive a little early to ensure getting in, as there will be no admittance between tours.
Sunday 14th September
CLOSED



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 300m³ 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 MVHR, to provide energy efficient ventilation.

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 back.



60 Barons Down
Lewes BN7 1ET

Type

1960s 3 bed timber frame terraced house

Owners

Ian and Magali McKay

Features

- Airtightness
- Double glazing
- Gas condensing boiler
- LED lighting
- Low energy appliances
- Natural materials
- Passive solar gain
- Perimeter floor insulation
- Solar PV (3kWp south facing)
- Timber frame

CO2 emissions

0.6 tonnes p.a., 89% less than an average household

Open

Saturday 13th September

10–1 (closed pm)

Sunday 14th September

10–1 (closed pm)

N.B. Entry only on the hour

for tour at 10, 11, 12.

Please arrive a little early to ensure getting in, as there will be no admittance between tours.



This house was very rundown when architects Magali and Ian McKay bought it in September 2011. The idea was to blitz the building work over three months, to allow the couple and their two small children to move in as soon as possible.

When built in the 1960s, the Barons Down estate pioneered well designed and economical timber framed housing. The priority was to therefore to retain the useful layout, whilst upgrading the virtually non-existent insulation and providing a modern kitchen. This involved stripping the upper ceilings to spray insulation between the ceiling joists and inserting sheep's wool insulation in the timber framed walls, whilst battening out to allow room for services.

For a relatively modest build cost of £70,000, a smart modern home has been created, with extraordinarily low carbon emissions. The south facing glazed screen wall enables excellent solar gain and well detailed insulation means the house is close to being both carbon neutral and energy cost neutral.

www.lewesecoopenhouses.org.uk



Barn Croft, Rodmell
BN7 3HF

Type

1973 4 bed detached bungalow

Owners

Tim Rabjohns

Eco Features

- Air Source Heat Pump
- Cavity wall insulation
- External wall insulation
- Low energy lighting
- Low energy appliances
- Natural materials
- Solar PV (3.3 kWp)
- Woodburning Stove
- Food cultivation

CO2 emissions

3.4 tonnes p.a., 39% less than an average house

Open

NB As all features are external,

Tim will be outside explaining

these, rather than giving any

tour of the interior.

Saturday 13th September

10–1, 2–5

Sunday 14th September

10–1, 2–5



When Tim and his family lived in France, they experimented with low carbon living in a house heated by a 30kW wood boiler and fed from fuel gathered communally. On relocating to Britain, they wanted to build on this experience by carrying out a more extensive eco- renovation.

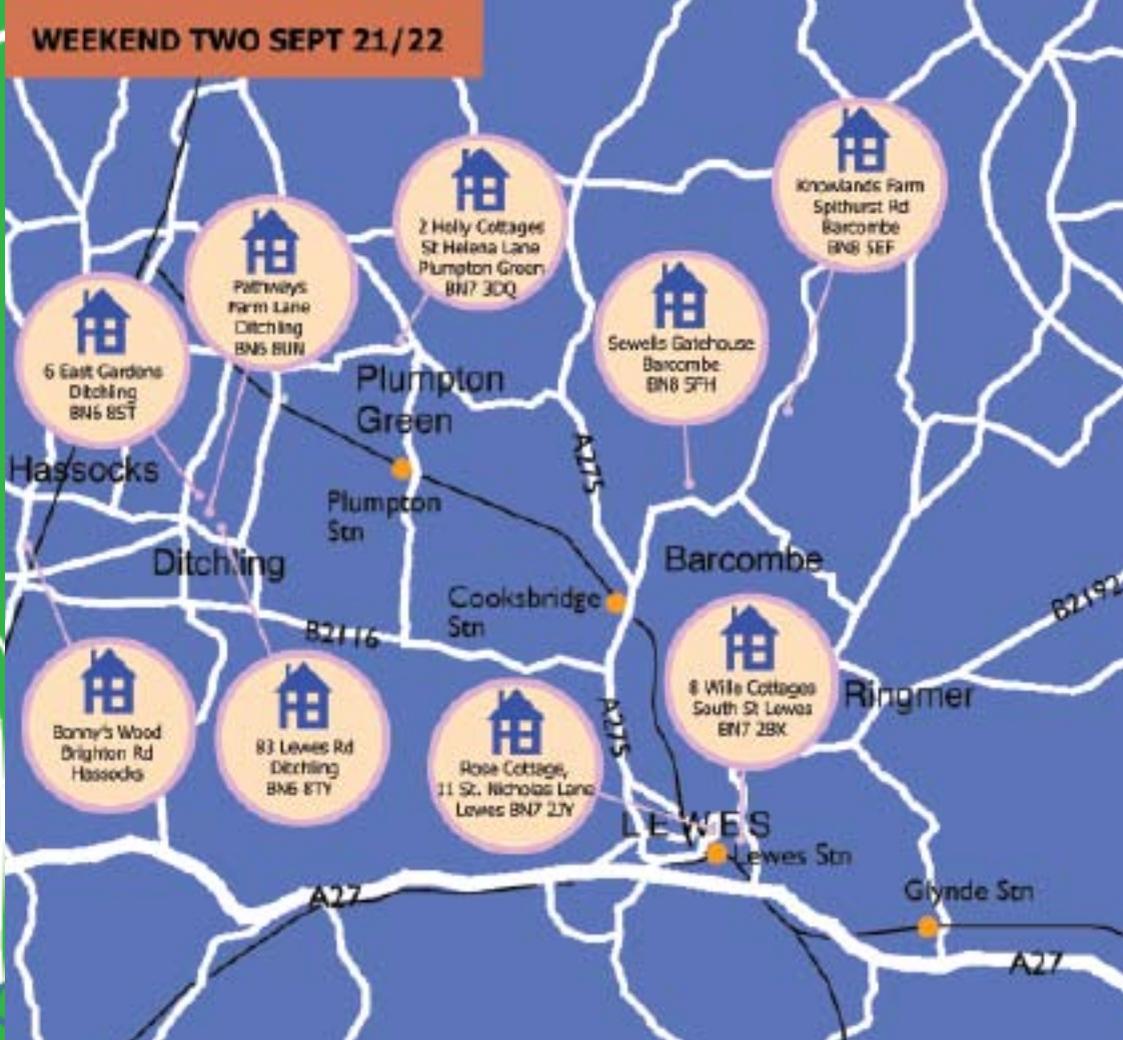
Barn Croft was chosen as a fairly modern house that had ample scope for improvement, but did not present the challenges of older building stock. This building has been progressively superinsulated to minimise heat loss, with electricity use similarly offset by PV generation on the roof. Heating and hot water comes from renewable energy, via an air source heat pump, backed up by a woodburning stove. This ethos of sustainable living extends to other lifestyle changes, including food growing according to Permaculture principles.

www.lewesecoopenhouses.org.uk

WEEKEND ONE SEPT 13/14



WEEKEND TWO SEPT 21/22



13th/14th September

13 St James St, Lewes BN7 1HR
8 St James St, Lewes BN7 1HR
12 Pelham Terrace, Lewes BN7 2DR
10 Sheepfair, Neville Estate, Lewes BN7 1QH
106 Prince Edwards Road, Lewes BN7 1BH
60 Barons Down, Lewes BN7 1ET
Barn Croft, Rodmell BN7 3HF

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20th/21st September

Bonnys Wood, Brighton Road, Hassocks
Pathways, Farm Lane, Ditchling BN6 8UN
6 East Gardens, Ditchling BN6 8ST
33 Lewes Road, Ditchling BN6 8TY
2 Holly Cottages, St Helena Lane, Plumpton Green BN7 3DQ
Sewells Gatehouse, Barcombe BN8 5FH
Knowlands Farm Granary, Spithurst Road, Barcombe BN8 5EF
8 Wille Cottages, South Street, Lewes BN7 2BX
Rose Cottage, 11 St Nicholas Lane, Lewes BN7 2JY

www.lewesecoopenhouses.org.uk



Bonny's Wood
Brighton Rd, Hassocks
Directions: On the right going North on A273, 200m beyond Jack and Jill pub - Parking on site for the day.

Type
Managed woodland with off grid barn and offices

Owner
Matthew Stuart

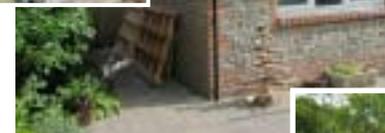
Eco Features
Cavity wall insulation
Solar PV (5 kWp)
Water conservation
Firefly energy storage and biofuel generation

CO2 Emissions
Emissions will be extremely low as this is off grid, using PV with biofuel back up.

Open
Saturday 21st September
10-1, 2-5
Sunday 22nd September
CLOSED

This is an 11 acre wood owned and run by Matthew Stuart, who has just built a large barn with a 5kW PV array, which will be linked up to a Firefly battery and generator unit to go fully off grid. In winter the Firefly will try and use solar, but is backed up by biodiesel. Matthew has gradually restored the coppicing in what was a neglected woodland and will operate his firewood, tree surgery and downland conservation business from here. Being off grid, he has installed rainwater harvesting for the office water, as well as for vehicle washing. He has placed owl boxes high in the canopy, left abandoned trees for wildlife and is restoring drainage and chalk roadways. It is important to understand that by managing the woodland, far greater biodiversity will be established. This is a rare opportunity for the public to go in the wood, which is normally closed off for safety and security reasons. Matthew's vision and commitment is quite inspiring and is an interesting insight into what commercial operations can do to promote sustainability.

www.lewesecoopenhouses.org.uk



Pathways, Farm Lane
Ditchling BN6 8UN

Type
Detached ScandiaHus, built 2013

Owners
Jane and Michael Coward

Eco Features
Air source heat pump
Low energy lighting
Low energy appliances
Superinsulation
Triple Glazing
Underfloor heating
Woodburning Stove
Food Cultivation
Rainwater harvesting

CO2 emissions
Energy use is extremely low at 12,000kWh pa, but because the house is entirely electric emissions are not as low as they might be.

Open
Saturday 20th September
10-1, 2-5
Sunday 21st September
10-1, 2-5

Jane and Michael Coward decided on self build almost by accident, after searching unsuccessfully for a house that met their needs. They were looking to downsize into retirement, with a low maintenance house that had low energy bills and provided land for them to cultivate much of their food.

Having found a plot with planning consent for a ScandiaHus, they modified the design to make it exactly match their requirements. The result is a spacious modern house with underfloor heating, triple glazing and super insulation that is heated by a renewable air source heat pump.

Rainwater harvesting provides ample water for the greenhouse, fruit trees and extensive produce beds. Building was undertaken by local firm, Coastal Building Services Ltd, who worked to an efficient costing schedule and delivered on budget.

Parking is not possible at the house, but is available at the nearby recreation ground or centrally in the village.

www.lewesecoopenhouses.org.uk



6 East Gardens
Ditchling BN6 8ST
Best to park centrally by
community centre in
Lewes Road

Type

Detached 4 bed timber
framed house built 2007

Owners

Sally Williams and David
Browne

Eco Features

Condensing boiler
Green Sedum roof
High performance double
glazing
Individual room thermostats
Solar PV (4kWp)
Solar thermal
Timber frame
Timber cladding
Underfloor heating
throughout
Underfloor insulation
Warmcell wall insulation

CO2 emissions

1.1 tonnes, 80% less than an
average house

Open

Saturday 20th September
CLOSED
Sunday 21st September
10-1, 2-5



Originally a thirties bungalow stood on this site until 2005, when Sally and David decided that renovation was impractical and that it would need to be demolished and rebuilt to meet their family's needs.

This provided the opportunity for as many green construction methods as possible, whilst also planning for flexibility and changing needs in a modern contemporary design.

Standing on soft clay, the foundations needed to be piled, with a suspended concrete structural deck. From this base a timber framed house was built, partly with red cedar cladding and partly with self coloured render. This structure was heavily insulated and has solar thermal and more recently solar PV, yet retaining space for a large area of sedum roof to support wildlife.

Large areas of glazing have been created to both maximise solar gain in winter and give as much natural illumination as possible. Underfloor heating has been employed both upstairs and downstairs, with the ground floor slab being heavily insulated.



83 Lewes Rd
Ditchling, BN6 8TY
Best to park at recreation
ground in Lewes Road and
walk the short distance to
the house

Type

4 bed timber framed
detached house, built 1998

Owners

Ian and Tae Chisholm

Eco Features

Double glazing
Green roof
Solar thermal hot water
Timber frame construction
UK sourced timber
Underfloor heating
Warmcell recycled paper
insulation
Woodburning stove

CO2 emissions

About 25% less than an
average UK house, despite
being much larger.

Open

Saturday 20th September
10-1, 2-5
Sunday 21st September
10-1, 2-5



When Ian and Tae moved to Ditchling, this site was occupied by a timber framed bungalow, which had been originally been a First World War army hut. Given its age and tired state, renovation was not an option, but they were inspired by the charm of a timber house and employed timber frame specialist, Jon Broome, to design the current building.

Jon was a colleague of the renowned Walter Segal and came up with a design, built in 1998, which employed then unheard of levels of largely natural insulation, to create a highly insulated and sustainable dwelling. The building is topped off by an attractive green roof, which provides a low maintenance haven for wildlife, whilst further enhancing insulation.



2 Holly Cottages
St Helena Lane
Plumpton Green
BN7 3DQ

Type

2 bed end of terrace cottage,
of solid brick/timber frame,
built 1865

Owners

Nick and Janet Rouse

Features

Ground sourced heat pump
High performance secondary
double glazing
Insulated front door
Solar PV (5.9kWp)
Solar thermal
Solid wall insulation
Underfloor insulation
Underfloor heating

CO2 emissions

2.7 tonnes, 50% less than an
average household

Open

Saturday 20th September
10–1, 2–5
Sunday 21st September
10–1, 2–5



Holly Cottages demonstrates the kind of problems faced in conservation areas. Nick was obliged to keep the very leaky lattice glazed windows, but greatly reduced heat losses by fitting high performance double glazed secondary panels.

The front door, although thin and leaky, also had to be kept for conservation reasons. A replica of the inside of the door out of reclaimed Victorian pine was fixed to the original with insulation between. The solid walls were insulated internally using foam backed plasterboard.

As the house is off gas grid, it was originally heated by high emission coal, but now has a ground sourced heat pump, which runs an underfloor heating system. To offset the fairly high electricity demands of this system, Nick has two solar PV arrays totalling 5.9 kW. Around 50% of hot water also comes from solar panels.



Sewells Gatehouse,
Barcombe BN8 5FH

Type

3/4 bed detached ScandiaHus,
built 1985, refurbished 2012

Owners

Jason and Mel Lundin

Features

Ground source heat pump
(GSHP)
Solar PV (3.2 kWp)
Triple glazing
Underfloor heating
Underfloor insulation

CO2 emissions

2.9 tonnes p.a., 48% less than
an average household

Open

Saturday 20th September
10–1, 2–5
Sunday 21st September
CLOSED



Sewells Gatehouse was built in 1985 by Jason's mother's construction company to a ScandiaHus design, which at the time was cutting edge with high levels of insulation and triple glazing. Following construction, this was rented out continuously until very recently. When Jason and his family decided to move in a couple of years ago, they felt it was time for a major upgrade, with improved insulation, a ground source heat pump and solar PV panels on the roof to help balance the additional electric load. This replaced expensive electric convector heating. Energy use is now nearly 50% below average and more than 60% lower than the former building.

The work took over a year and involved stripping out all flooring and plastered wall surfaces to gain access to the underlying structure. At the same time, the kitchen was switched from the south side, where it tended to overheat, to the north side, with its lovely views across the fields.

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Knowlands Farm Granary
Spithurst Rd, Barcombe
BN8 5EF

Type

3 bed Barn conversion done in 2002

Owners

Nick and Harriet Lear

Features

Water source heat pump
Underfloor heating
Double glazing
Underfloor insulation
Solar PV (10 kWp)

CO2 emissions

CO2 emissions are still quite high, but the effect of the PV and the Heat pump will be a massive 7 tonnes per annum reduction. Nevertheless, the AGA is a big limiting factor...

Open

Saturday 20th September
10–1, 2–5
Sunday 21st September
CLOSED



Nick and Harriet have lived at Knowlands Farm for more than 40 years and downsized from the main farm house to the barn conversion in 2002.

This conversion included solid wall insulation, insulation between the rafters, double glazing and even underfloor insulation with underfloor heating. However, although the farmhouse had a biomass boiler, the Granary has had oil fired central heating and an oil fired Aga right up until this summer. This has now changed, with the installation of a water source heat pump, extracting heat from the lake to provide space heating and hot water. At the same time, the AGA is being converted to electricity, to exploit the Solar PV generation.

The couple have long pursued a sustainable lifestyle, having lived sustainably off 10 acres of farmland up until 15 years ago. Nick has also continued to carefully husband the 70 acre wood as a nature reserve, particularly for local butterfly species, and harvests timber and firewood, which they sell.

www.lewesecoopenhouses.org.uk



8 Wille Cottages, South St,
Lewes BN7 2BX

Type

2 bed terraced brick house
built 1898

Owner

Jill Goulder

Features

- Cavity wall insulation (part)
- Draughtproofing
- Landshare veg. patch
- Loft Insulation (Warmcell)
- Low energy lighting LED & CFL
- Secondary Double glazing
- Solar PV
- Sun Tube
- Underfloor heating (part)
- Underfloor insulation

CO2 emissions

1.9 tonnes p.a., 65% less than
average household

Open

Saturday 20th September
10-1, 2-4
Sunday 21st September
10-1, 2-4



8 Wille Cottages is a model of what can be done to an old house, taking advantage of renovation works to install some of the more disruptive measures, such as underfloor heating and insulation. The front cavity wall and the loft have also been insulated. Jill has come up with many ingenious methods for very effective reductions, such as magnetic strip secondary double glazing (very cheap and near invisible), creative use of LED lighting (she can advise on choosing low energy light bulbs too) and simple solutions to cut waste from cooker fans and TV aerial amplifiers. Her commitment has qualified the house as a "Superhome", with emissions reduction > 60%.

Links to Jill's website, her Superhome webpage and downloads for information sheets on the house, secondary double glazing and LEDs are available on the main Lewes Eco Open House website.



Rose Cottage,
11 St. Nicholas Lane
Lewes BN7 2JY

Type

Detached house built 1740

Owner

Dave and Polly Robinson

Eco Features

- Condensing boiler
- Intelligent Heating controls
- Low energy lighting
- Low energy appliances
- Mechanical heat recovery ventilation (MVHR)
- Structural Insulated Panels (SIP)
- Food cultivation

CO2 emissions

Approximately 40% less than
average household

Open

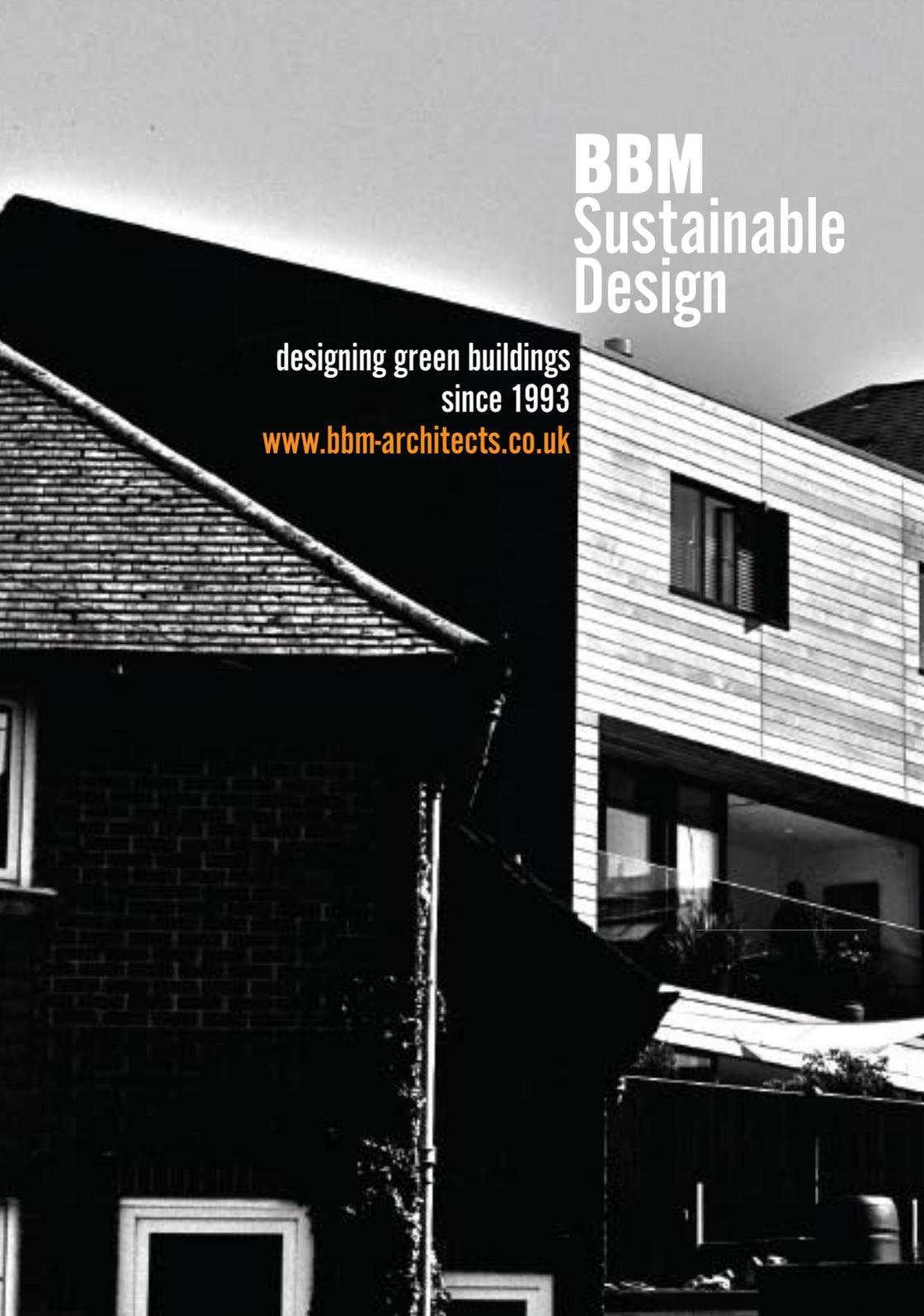
Saturday 20th September
10-1, 2-5
Sunday 21st September
10-1, 2-5



Dave and Polly bought this house in 2000 and have long wanted to ecorefurbish it and expand the living space, but have only just found the time and the energy to tackle this challenging project.

The new extension that wraps round the rear demonstrates the insulating power of structural insulated panels and has made the living space far more generous. The leaky attic has also been tackled with solid wall insulation that runs over the sloping ceilings, installed by Dave himself.

Very unusually, the house has intelligent heating controls which enable different areas to have their own thermostats and daily heating schedules, to closely model usage and minimise energy input. Whilst listed buildings have their constraints, this house shows that a great deal can still be achieved.



BBM Sustainable Design

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