

15th to 21st Century Farmhouse - Heydon



Property Overview

Property age: 1400s with additions over the centuries
Location: within village Conservation Area
Project timescale: October 2020 - June 2022
Type: Detached Farmhouse
Wall type: timber framed original house with Victorian brick skin & flint; cavity walls in extensions
Floor area: 450m² + room above double garage
Occupants: 2 adults

Meet your hosts, John & Fay:

We are a retired couple who bought Hill Farmhouse in January 1994 in fairly poor condition. Along with the house was a semi derelict stable block that we immediately converted into 140m² of office space for John and his business partner. The house had beams exposed in only one room and several 1950s fireplaces, but we believed it had much older origins than the Victorian brick façade suggested. We carefully renovated room by room: exposing and treating the timbers, and insulating and applying new plaster between the timbers. We also exposed inglenooks on either side of the two chimneys: with the first chimney, we left an open fire with a bookcase on the other side, both with removable covers to prevent too much heat exchange from the chimney; with the second chimney, we installed a wood burner and Aga in inglenooks on either side of the chimney.

Extending and Improving Spaces

We later added a porch to the front of the house and an ensuite bathroom to the downstairs bedroom, as well as an extra reception room with chimney and wood burner and a master bedroom above – all with cavity walls filled with rockwool insulation. We also added a conservatory and replaced the carports with a double garage and an extra room for the offices (these later became Stable Cottage's kitchen and living room). In 2006, the business needed bigger premises, so John moved it out, leaving us with a lot of home office and storage space plus a studio and dark room for our 3 artistic teenage children!

Replacement Garage Following Separation of Stable Cottage

In 2018, we got planning permission to separate the stable block from the main house and to renovate the stable block as a 3 bed eco-bungalow, which is now [Stable Cottage](#). The plans meant that we needed to build a new garage for Hill Farmhouse, so we took the opportunity to add a room above the new garage and installed 12x 328W [in-roof Trina solar PV panels](#) on the South facing roof with a [GroWatt inverter](#). At the same time, we bought 4 x 2.4kWh [Pylon Tech batteries](#) + [Luxpower inverter](#) to store solar energy and to draw cheaper night-time electricity for use in the day. Our goal was to do our bit for the environment and save money on electricity bills.



Exposed inglenooks

Our top tips:

- **Research, research, research!**
- **Project manage & purchase materials yourself to stay in control of quality & costs and to get the benefits of your research - renovating old houses can throw up the unexpected**
- **Use the opportunities to make eco-improvements on any building work you plan to undertake**



Spray foam insulation

www.openecohomes.org

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When we did the separation of the buildings in 2019, we kept a small bit of the first room to give me a well-insulated pantry. Our three adult children had by then all left home and bought their own properties, so we didn't really need a big 6/7 bedroom house and wanted to sell up and downsize. However, the house lacked a big open plan kitchen/dining room and the North-facing conservatory performed very poorly: it was too hot in the summer, too cold in the winter and deafening when it rained! We got further planning permission to convert the conservatory into a garden room and to open it up to the kitchen, which we did in early 2022. We also replaced the last two single glazed windows and two old rotten double-glazed windows with new hardwood double glazed windows. As had been done in Stable Cottage, the builders were asked to use special [insulating tape](#) when fitting the new windows to provide good insulation around the edges.

Our Approach

Pre-Covid, we had been to several Cambridge Carbon Footprint workshops and visited various Open Eco Homes, all of which had been very useful, and had encouraged us to make small energy-saving changes, such as putting foil behind the radiators and using insulating tape on leaky windows and doors, as well as plan the big improvements. Before we started, we set up a self-build account at [Jewson](#) in Royston, and had an excellent account manager called Tim, an experienced ex-builder himself, who gave us lots of very sound advice as well as good discounts with free delivery. John also did extensive online research to plan the renovatons of both Stable Cottage and Hill Farmhouse, and did lots of shopping around for the best deals before we did anything. We project-managed all the building work ourselves and purchased all the materials. Whenever feasible, we used local labour and suppliers. In general, we paid a daily wage for the work rather than getting a quote for each job as unexpected things often crop up when renovating old buildings. This approach gave us better control over the costs. By choosing and purchasing the materials ourselves, we also had better quality control of the finishes.

Although the plan had been to sell, the property market has since collapsed, so we have decided to stay for the time being and enjoy the improvements we have made. The insulation, solar panels and batteries have cut our electricity costs significantly (by about two-thirds) and the garden room/kitchen is now a delight to be in: warm in winter (with 3 radiators and excellent [Icynene](#) insulation) and cool in summer (a comfortable 25C when it was 40C outside last summer). I just wish we had done it years ago!

Future Plans

We are converting our 13Amp 2 oven Aga to a modern 3 element one, allowing us complete freedom to switch on *what we want*, *when we want*, rather than having the Aga on all the time.

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Key Features

30 years of Extensions & Renovations, most recently:

- Split off, renovated & sold eco-bungalow (Stable Cottage)
- New double garage; fully insulated room above
- Conservatory converted into garden room

Insulation & Glazing

- Spray foam insulation to roof & walls of garden room
- Double-glazing throughout the house
- Insulating tape on windows & doors

Heating & Energy

- 12 x 328W in-roof solar PV panels with inverter
- 4 x 2.4kWh batteries with inverter
- Economy 7 tariff (overnight use & charging)
- Battery app & smart meter
- Immersion heater for summertime hot water
- Hive controlled oil central heating
- Wood burning stove (winter use)

Energy Consumption	Energy kWh/m ² /pa			Carbon kgCO ₂ e/pa	
	Oil	Electricity	Total	/m ²	/person
Before Renovation*	91.6	44.4	136	31.2	967
After Renovation**	80.2	16.5	96.7	23	717

*4 adults with Aga on all winter **2 adults with minimal Aga use

(Excluding wood burning)



New Garden Room

Key Contacts, Products & Advice:

(subject to huge changes post pandemic)

Spray foam insulation: [Icynene](#)

(£1,250 to insulate garden room)

Insulating tape: [Iso-Bloco One](#)

In-roof solar PV panels: [Trina Solar](#)*

Inverter for solar PV: [GroWatt](#)*

Batteries: [Pylon Tech](#)*

Inverter for batteries: [Luxpower](#)*

* Together, installation & connection cost us £8,407.50 incl VAT

