

Towards an Eco home: Mill Cottages, 9 Hope Road, Edale, S33 7ZF



Background

Built in 1901, 9 Hope Road is a three bedroomed, end of terrace, stone fronted, house (brick at the rear) with a plot of land at the back facing the river Noe. Apart from the front room, converted from a shop in 1991, there had been little changed in the house since the 1970's. We moved in around March 1996

1. Electricity Supplier, since 2020

Our supplier is Ecotricity, one of the very few green energy suppliers who invest wholly in green energy. They are efficient, and have recently installed a Smart Meter free of charge. Their charge is currently £0.28p per kWh plus a standing charge per month of £10 and 5% VAT. With an Air-source Heat Pump (ASHP), replacing up to £700 p.a of oil bills, and electric car charging from our domestic charger saving approx. £480 on petrol p.a., our electric bill for 2022 was 5027kWh, or approx. £1530. We have managed to reduce bills in most months in each of the last three years through careful management of consumption. There is no piped gas supply to Edale.

2. Various forms of Double glazing from 1995

All windows have been double-glazed – as well as both external doors - by various local suppliers, in some cases with PVC units, in most other cases using sustainably procured wood with double glazing. In the case of two windows, secondary glazing was used

Notes: Energy saving. Expensive, but worth paying for high quality.

3. Loft Insulation, from 1998

This was put in shortly after we moved in, using the standard recommended width of fibreglass from B&Q, but also an additional layer of material made from pulped newspapers was added. We do not have a loft extension because this would make the house more difficult to insulate.

4. Wood-burning stove 2008

We use this in exceptionally cold weather in the evenings, on average not more than once a week in winter. All fuel is gathered locally from our patch of land. We have stored a considerable amount of wood in one of the sheds, sufficient for maybe 5 years at our rate of use. Any trees felled or coppiced

have had the agreement of the Peak Park to the actions undertaken. The only cost is for the chimney sweep/servicing: £100 pa. Environmental impact is controversial. It's essential to use well-seasoned, dry wood and to burn at high temperature to minimise carbon and small particle emission. We would never use kiln-dried wood bought commercially

5. Solar Panels installed 2023

Model: 8 x 385w Monocrystalline Solar Panels producing 3kw

Fitter/supplier: Greener Living, with many delays and incompetencies. They are not recommended

Cost: £7,000. Ecotricity are not currently offering an annual Feed-in-Tariff, but one is expected. We decided not to buy a battery. This obviously limits the savings. For things like oven use and car charging, when happening on a sunny day, it is saving us some money but not a huge amount. It's too soon to say what impact it has on bills, but our new Smart Meter will help. Peak Park gave us helpful advice on what was and was not OK.



6. Solar Thermal, installed 2010?

This has been very effective throughout the year in ensuring that tap water is never freezing cold. For the most part it creates enough hot water for baths from May to September, and throughout most of the year warm enough water for washing up. It has proved to be extremely low maintenance

7. Water Butt, installed 2012?

This holds enough water for the garden to be watered for several days when it is dry weather in the summer



8. Air Source Heat Pump (ASHP) 2020.

This is replacing oil fired central heating. Model: Vaillant 12Kw aroTHERM Plus VWL 125/6

Fitter: Greener Living. Poor installation and service. Not recommended

Cost. £13,000, but Ofgem payments amount to £12.5k over 7 years plus fuel savings

Temperature of water circulating in system is lower than with oil. This is more efficient. This meant we had to replace some radiators, which have to be bigger than oil-fired radiators because of the lower temperatures. We have the ASHP on from 4pm almost every winter evening, and use small electric fires in the day time. Each ASHP radiator can of course be adjusted if the room is not being used. There is little noise from this machine – maybe a gentle hum and a blowing sound

9. Wall insulation 2022

We have insulated the walls of the pantry, backstairs, and main living room

Fitter: Andrews The Builders. Good for the most part but slow. Not all the gaps completely filled in - e.g. between skirting board and insulation wall, which have had to be filled in separately later

Material: Celotex 40mm+12.5mm insulated plasterboard with skim finish

This work was partly done to remove the causes of mould on back stairs walls, and partly to improve the impact of the ASHP

Cost – difficult to disentangle costs from some other work undertaken to replace pantry shelves. Maybe £11,000. There is a lot of domestic disruption to be expected in having this work done

10. Heat exchangers 2022

These reduce the amount of humidity on the back stairs and the kitchen. They have been very effective in conjunction with the wall insulation. The cost is about £200 (I think) plus fitting

11. Electric car charger 2018

This was installed by PodPoint, and funding at the time was covered mostly by a government grant. It takes about 30 kWh to charge our car fully, giving a 220- 240 miles range – this is about a cost of £11 for 220 -240miles therefore

12. Dual flush low water usage loo, and low water-usage shower 2015

We do not have a water meter but this clearly makes sense environmentally.

Other points

1. The most effective form of economy and carbon reduction in relation to heating is to wear extra layers of clothing and it also makes sense to take a hot water bottle to bed!
2. We had the house rewired where necessary, and checked electrically, about 6 years ago, which has proved very helpful in giving confidence about the wiring of the house being able to cope with the extra electricity demands of ASHP, car charging and solar panels.
3. It is important to point out that we have been fortunate to have had enough savings to pay for all these changes without paying interest on loans.

Contact

We would be very happy to discuss any of the above with you. Contact 01433 670392