

Cosy Homes transformations

Retrofitting to get a Hook Norton cottage off fossil fuels for good

Trish and Tim knew that their home needed work, with glass doors and windows that were letting in cold draughts, insulation that hadn't been touched since 1996, and an oil boiler that was ruining their chances of living the fossil fuel free, sustainable lifestyle they sought. But this work would be disruptive, and the prospect of managing the process filled them with dread. Here's how their home transformation went.

About the house

Trish and Tim live in an end-of-terrace cottage in the picturesque village of Hook Norton, located in the Cotswolds. This has been their family home for many years, with their children now grown up and moved out.

The cottage is a mixture of ages and styles. The front half of the house is pre-1900, made out of solid ironstone - a type of stone found locally in Hook Norton, historically a key industry for the areas. The back of the house is much more modern, having been worked on between the 1970s and present day.

Motivations for the retrofit

Areas were uncomfortable to live in

This home had been well-loved and well-lived in for many years, serving a growing family. Over the years Trish and Tim had noticed several issues with the fabric of the building, which were affecting their enjoyment of their home, including:

- | At the back of the home are floor to ceiling glass patio doors, which had needed replacing for 25 years
- | Several of the existing double glazed windows were failing and there were still a couple of small single glazed windows that had to be replaced.
- | Insulation throughout was lacking and, strangely enough given the mixture of ages the newest part, the master bedroom (which met 1996 building regulations) needed most attention.
- | A large downstairs room was very hot in the summer and very cold in the winter - it also used to be a playroom and so was now lacking purpose, making it the ideal site for a new kitchen to replace the old, cramped one.

All of these elements combined left the home losing heat and using excess energy - meaning higher than necessary energy bills and carbon emissions, and an uncomfortable living situation.

the front



the back



The struggle to get off oil

Another key motivation for Trish and Tim was their desire to get their property entirely off oil and do their bit to tackle the climate emergency.

The couple share a passion for sustainability, with Tim heavily involved in his local low carbon community group, Hook Norton Low Carbon. This means they were all too aware of the carbon footprint of our homes. They had already installed solar panels and solar thermal panels on the rooftop of their home. But, they knew that they could be using the electricity and hot water generated from their roof much more efficiently if they could fix all the issues with their home leaking heat.

When they last explored retrofit options for their home heating system, over 10 years ago, the best option had been to replace their old, inefficient oil boiler with a highly efficient condensing oil boiler. This was fine as an intermediate stage, but the couple still wanted to end their reliance on oil entirely, bringing down the carbon footprint of their home.

Since then technologies have moved on considerably, and they were keen to re-visit their options - particularly to explore whether an Air Source Heat Pump may allow them to move away from fossil fuels.

“ We wanted to get off oil and be able to use the electricity from our solar panels more effectively.”

The home retrofit process

Trish and Tim had been wanting to improve these areas of their home for several years, but had been putting it off because they struggled to find builders to do the work, and they knew it would take a large amount of coordination and time on their part.

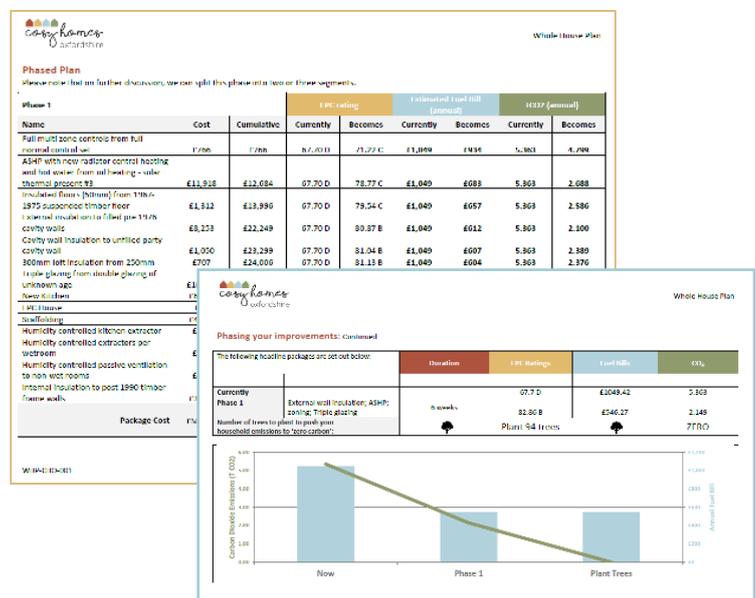
When they came across Cosy Homes Oxfordshire, they knew that the whole house approach was right for them, and that they wouldn't have to worry about coordinating the work themselves.

“ We knew there was a lot to do and did not want that difficult role of coordinating all the trades. We know it was such a big job that it would be very difficult to live in the house at the same time as having the work done, so we needed to have people we could trust while we were away. We like employing local people and Cosy Homes came highly recommended.”

Whole House Plan

Their first step with us was to have a Whole House Plan for their home, a process wherein the Cosy Homes Oxfordshire team visit for a home assessment.

Every home is unique, and so this allows our experts to understand the home and create their bespoke recommendations for improving the overall energy efficiency of the home, laid out in the Whole House Plan.



The chosen measures

From their Whole House Plan, it was clear to Trish and Tim that they needed to:

- | Completely change their heating system, removing their condensing oil-fired boiler and oil tank and replacing it with an Air Source Heat Pump (ASHP).
- | Remove their old hot water tank and replace it with a new pressurised hot water system with feed in from their existing solar thermal panels and the new ASHP.
- | Replace the kitchen, including levelling floors, and install underfloor heating.
- | Take off the material at the outside rear of the house and replace with insulated material.
- | Upgrade the insulation dating from 1996 from the main bedroom.
- | Replace any single glazed or failing double glazed windows with triple glazed windows.

Oil boiler to Air Source Heat Pump

before



during



after



Replacing and insulating the back facade

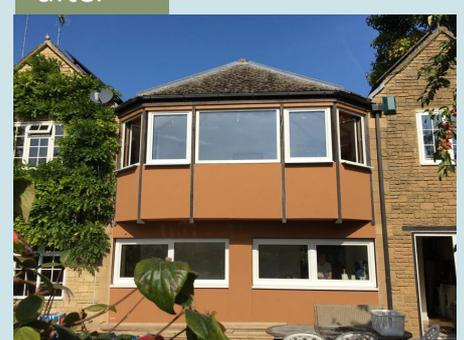
before



during



after



Insulation and window replacement in main bedroom

before



during



after



How did they find working with Cosy Homes Oxfordshire?

Working with Cosy Homes Oxfordshire allowed Trish and Tim to feel confident that their home retrofit project was in safe hands. Their expert Retrofit Coordinator would ensure that everything would run smoothly. The couple were involved in choosing which contractors would work on the project, ending up with a "top class team" (their words!) of MCS certified Cotswold Green Energy to install the Air Source Heat Pump, working as an integrated team with Hook Norton Construction to deliver the rest of the construction work - replacing the back of the house, installing new windows and insulation, replacing the kitchen.

Having this in place meant that Trish and Tim felt comfortable taking their campervan up to Scotland, and letting the work take place without them there. They were sent photos and commentary of the progress of the work throughout, and consulted when necessary.

“// The standard of the work was very high throughout. The craftsmen were professional and highly skilled.//”

The couple were thrilled with the incredibly high standard of the final work delivered, as well as the quick and efficient nature in which any final tweaks were made once they returned to the house.

The impact

For the environment

This home retrofit will save an estimated 3.2 tonnes of CO2 equivalent every single year, as well as making a huge difference to the energy bills and comfort of the home.

Installing an Air Source Heat Pump alongside improving insulation and windows to reduce heat loss, has ensured that the ASHP can work effectively to deliver the largest possible carbon savings. This is why the whole house retrofit approach which Cosy Homes Oxfordshire focuses on is so important.

For the comfort of the owners

Trish and Tim have also immediately noticed the difference the retrofit work has made to the comfort of their home.

The new kitchen is now the coolest room in the house on hot days, rather than the hottest. The underfloor heating in the room also means it will be cosy and warm as the winter days come.

Further, they have also noticed how much quieter their home is - a happy side effect of the insulation work throughout!

At a glance...

EPC rating

the home began with a EPC rating D and is now an estimated B rating

Carbon emissions

the home was responsible for 5.363 tonnes of CO2 equivalent each year, now reduced to an estimated 2.149 tonnes.

**Estimates based on the Whole House Plan*

“// We are delighted to have our lovely home back warm and comfortable and ready for the winter.//”