

SOUTH SHROPSHIRE CLIMATE ACTION BUILDINGS RETROFIT

OIL FIRED HEATING IN CONSERVATION AREA



This house is a south-facing semi-detached house in a Conservation Area. It was built in the 1960's to replace an ancient barn, and is joined to a 15th century half-timbered house.

Low-Carbon Improvements

- Roof insulation was installed between the rafters in the 1990's when an attic bedroom was created in the loft. The insulation is below modern standards and is difficult to improve while the loft is in use.
- Cavity wall insulation and new "conservation range" double glazed windows and doors were fitted in 2006.
- A solar hot water system was installed in 2007 (by Smart Energy).
- Seven solar PV panels were added in 2010 (by Gwres Glas of Llanfair

Caereinion). Over 10 years they have generated an average of 1358 kWh per annum.

Heating

The central heating system operates with an oil-fired boiler as there is no gas in the village.

Reflective panels behind the radiators reduce heat loss through external walls.



Annual oil consumption: approximately 1300 litres, which produce 3.3 tonnes of CO₂e emissions.

In 2013 the open fireplace in the sitting room was replaced by an enclosed wood burning stove.



Electricity

When we installed the solar PV panels in 2010 we changed our electricity supplier from npower to Ecotricity, which generates energy from 100% Renewable sources (chiefly wind).

This is the simplest and most important step households can take in moving towards Zero Carbon. Replacing the use of fossil fuels for heating and transport inevitably increases electricity consumption, but genuinely 100% Renewable suppliers like Ecotricity effectively reduce the carbon footprint of our electricity consumption to zero.

The next biggest change we could make - but have not yet done so - would be to change our oil-fired heating system to an air-source heat pump. Since this would also be powered by renewable electricity it could save up to a further 3 tonnes of CO₂.

Transport

The biggest single reduction in our carbon footprint came about through replacing our diesel car with an electric car in 2018. Using renewable electricity, this immediately reduced the carbon footprint of our car usage from 2.3 tonnes to zero.

The moderate range of our vehicle (between 150 miles in winter and 200 miles in summer) has also encouraged us to increase our use of public transport.

