

# HOUSE FACTS

- Stags Head: house built c.1830(?)
- EPC (Energy Performance Certificate) in 2021: graded 'F' (we have not had it recertified since renewables installed)
- Brick, stone and slate build
- Large single glazed windows
- 2 bedrooms
- Cellar (was working pub until 1955)
- Loft (half of loft not accessible)
- No mains gas
- Moved here Dec 1999
- Have slowly restored house, cottage and barn
- Electricity supplier: Outfox the Market (100pc 'renewable')
- Cottage (adjoining) is an older building restored around 10 years ago. Now long-term rental.
- We do not run a car, but one van (not EV)

# STAGS HEAD, NEW INVENTION

## HEATING BEFORE



On moving here in 1999, we installed an oil-fired Rayburn in the kitchen. This worked as a cooker, and heated the hot water & radiators for 22 years. We had small wood burners installed in the other 2 downstairs rooms for additional heating in winter.

We installed 2-panel solar hot water panels on house roof around 10-12 years ago. These have been superseded now by solar pv on barn roof.

In 2021 we decided we did not wish to burn oil any more, so set about researching the best way of heating the house/water.

Ground source heat pump was not suitable due to lack of available (suitable) land (also more ££).

## HEATING NOW



- Installed 14kw LG Air Source Heat Pump (ASHP) & 15-panel 5kw solar PV array, March 2022
- Because ASHP was installed prior to March 22, and our EPC was low, we benefitted from full RHI (Renewable Heat Incentive) on the ASHP
- No financial incentive on the PV outlay
- In April 2022 installed Esse Bakeheart wood stove for heating kitchen (no radiator) and for electricity-free cooking
- Purchased an infra-red radiator for Sarah's office for extra heating when required. Not yet used!
- The ASHP system is using our existing radiators - we have not had to buy additional ones. We have a new, large water cylinder in bathroom.

## KITCHEN

- Kitchen rebuilt in 2018 with double glazed windows & door and standard wall & ceiling insulation.
- No dishwasher or tumble drier
- No large oven - just tabletop oven and separate hob, plus microwave
- Esse Wood Stove is good for cooking

## COSTS/OUTLAY 2022



- ASHP: £13.8K (70 percent+ of which will be paid back to us via RHI over 7 years)
- Solar PV: £6.5K
- 11m roll of CosyWool insulation (supplier: Celtic Sustainables): £424
- 3 large bespoke double glazed hardwood windows: £4.6K
- Infra-red heater: £120
- Esse Bakeheart wood stove (incl. installation/new flue): £5.6K
- We were using £1K+ of heating oil annually previously (up to 2021)
- Logs - we think an average seasoned log costs around 30 to 40p/each. We burn c.10 logs day = £4/day
- We calculate that the ASHP has cost around the same in running costs as the oil would have. Costings TBC.

## TO DO...

- Complete double glazing of further 5 windows
- Possible external insulation on back wall?
- Invest in battery storage
- Invest in EV van?

## INSULATION

- We added 140mm of sheeps wool insulation to loft area bringing thickness to 270mm+
- Added 100mm of same to underside of sitting room floor (roof of cellar)

## LINKS & CONTACTS

- ASHP/solar PV installer/supplier: Rural & Country Energy: [www.ruralandcountry.energy](http://www.ruralandcountry.energy)
- Esse wood stoves: [www.esse.com](http://www.esse.com)
- Wood stove installers/supplier: Derwas (Welshpool): [www.derwas.co.uk](http://www.derwas.co.uk)
- Double glazed windows/building: Ian Parfitt, Compass Carpentry Services (Presteigne): 07717 401427
- Wool insulation: Celtic Sustainables: [www.celticsustainables.co.uk](http://www.celticsustainables.co.uk)

