

Appendix 2

Hanley Castle Parish

Energy Survey Results

For the Hanleys Energy Action Team (HEAT)

Carried out by Dave Green & Fran Hunt, Shareenergy

November 2020

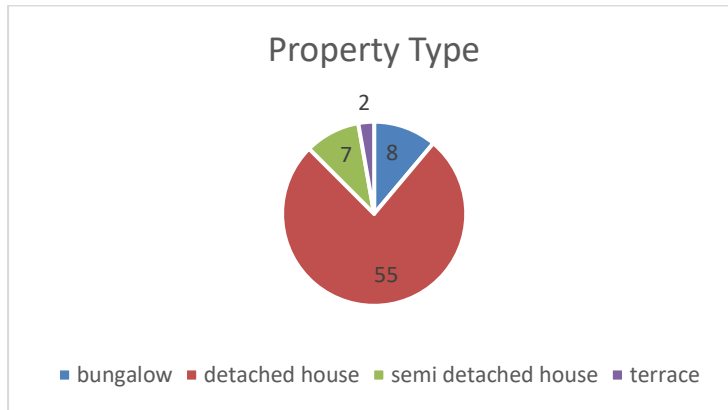
Funded by the Rural Community Energy Fund

Hanley Castle Parish Energy Survey Results

The survey was filled in by 72 households, roughly 12% of the households in the parish.

Property Type

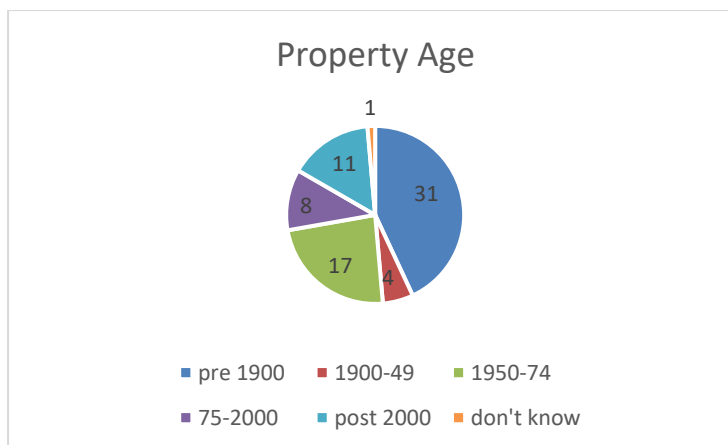
They are mostly detached houses, 55 properties (76%)



Property Age

The largest proportion are Pre 1900, 31 properties (41%)

2nd largest group is 1950-1974, 16 properties (22%)

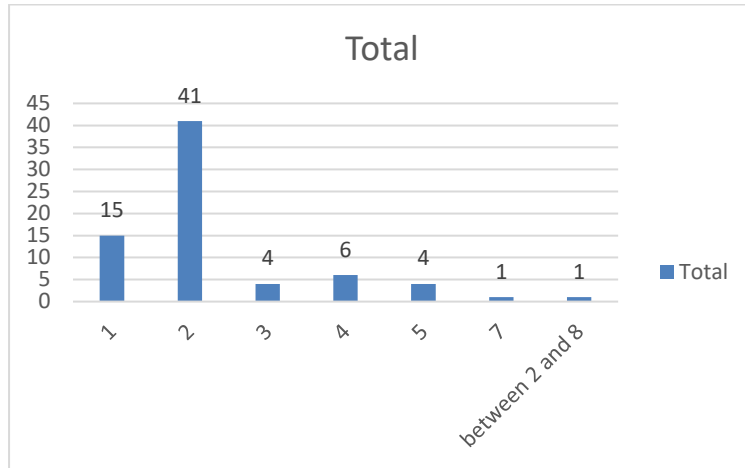


Number of occupants

Mostly 2-person occupancy, 41 households (57%)

Average occupancy 2.3

The Hanley Castle Neighbourhood Plan mentions 590 households and population of 1500, giving 2.54p/household.

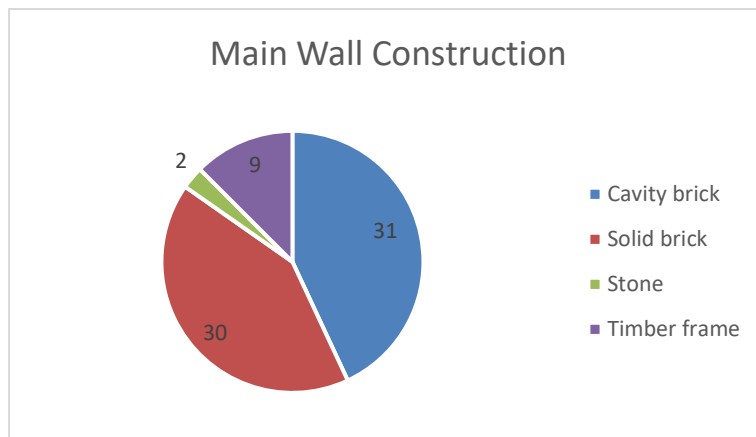


Ownership

The vast majority are owner occupied, 66 properties (92%)

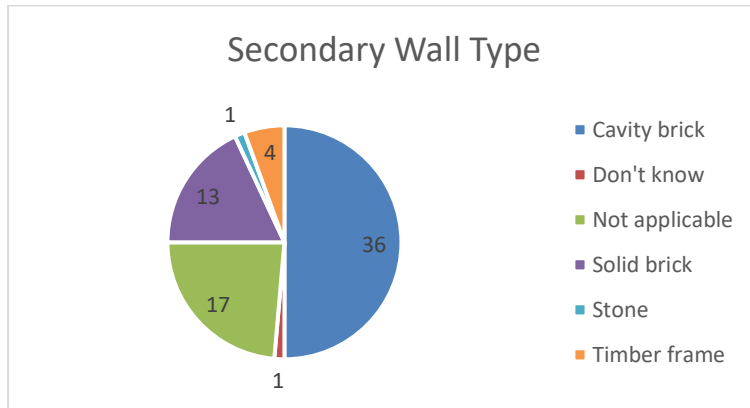
Main Wall Construction

Equally split between cavity and solid walls, 31 properties each (43%) with a few stone walls and a few timber frame



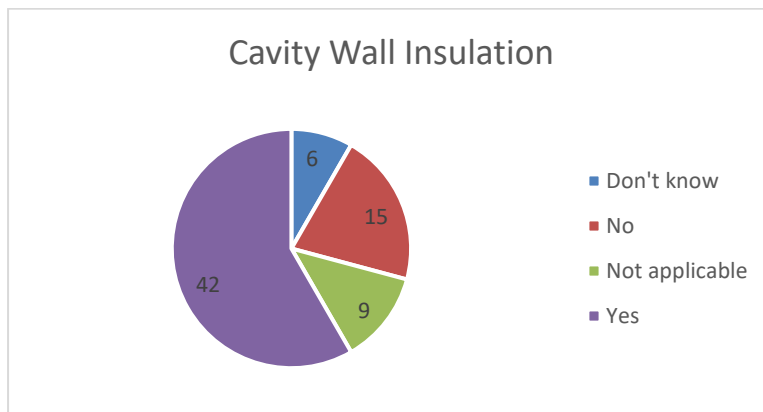
Secondary Wall Construction

17 properties (24%) have no secondary walls,
 36 properties (50%) have secondary walls of cavity construction.



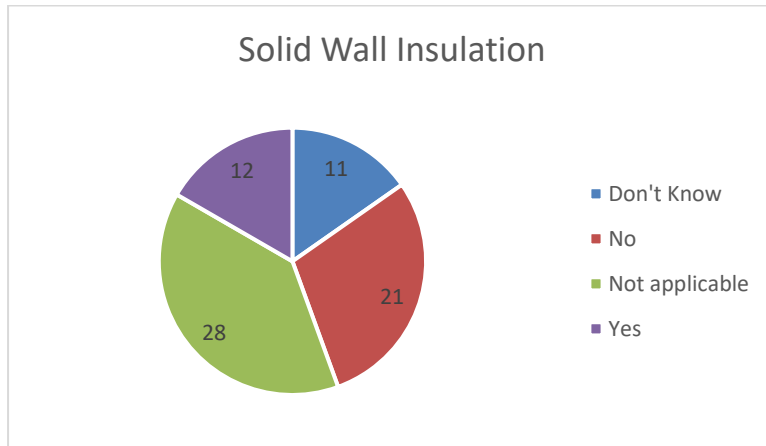
Cavity Wall Insulation

42 properties (58%) have cavity wall insulation, including some where this is just in the extension
 15 properties have none, 9 didn't know.



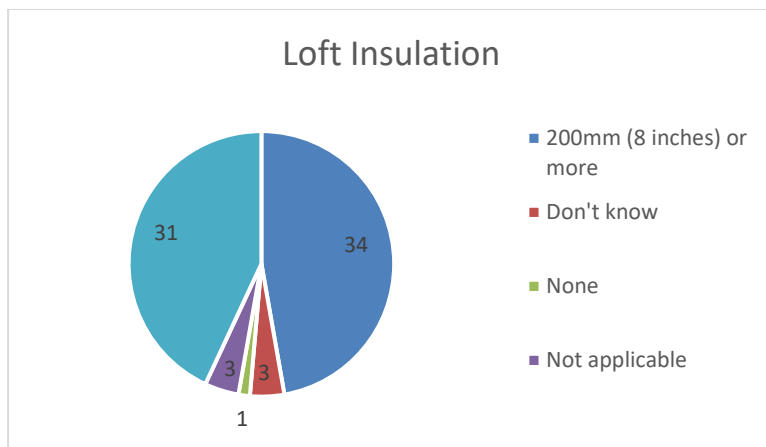
Solid Wall Insulation

12 properties (17%) have fitted some solid wall insulation.
 32 properties (44%) said no or don't know, the rest said 'not applicable'



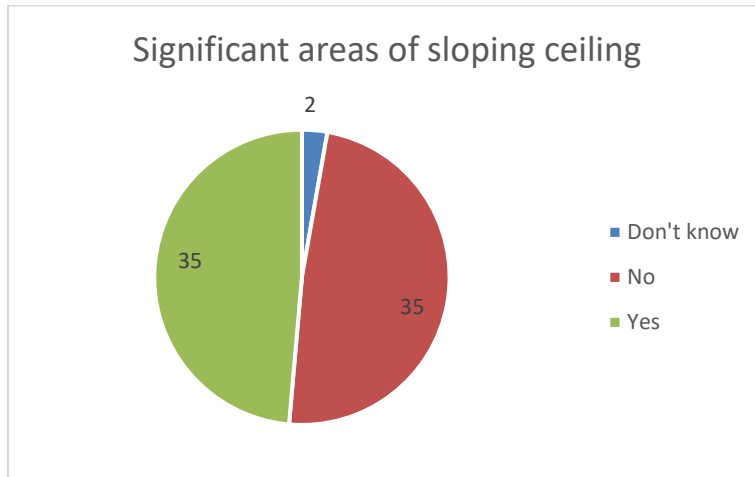
Loft Insulation

34 properties (49%) have 200mm or over,
 31 properties (43%) have under 200mm,
 many of these will have boarding or other issues limiting installation.



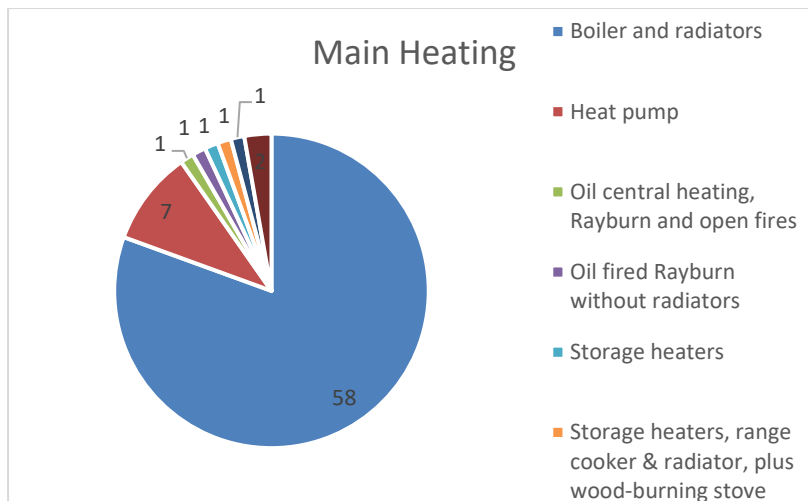
Sloping Ceilings

35 properties (50%) have significant areas of sloping ceiling,
Many of these will not be insulated



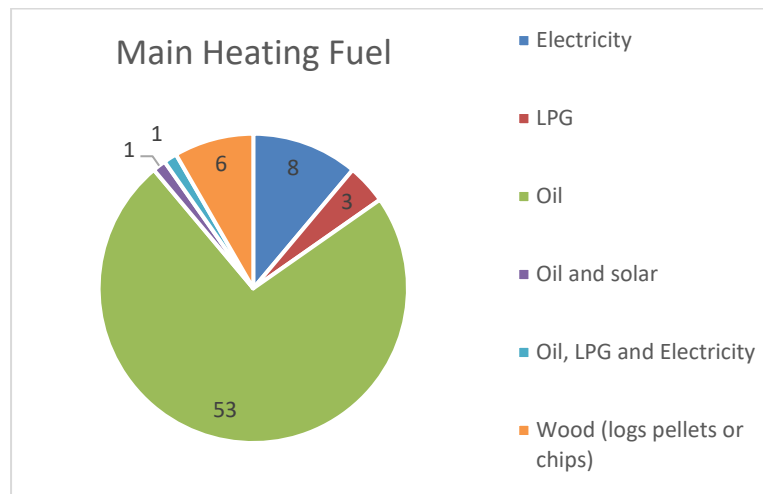
Main Heating

58 properties (81%) have a boiler and radiators,
7 properties, 10% have a heat pump,
this is much higher than the national average but does tally with our local EPC data.



Main Heating Fuel

53 properties (74%) use oil, plus two more that are a mixture of oil and other fuels



Heating Age

39 properties (54%) have boilers over 10 years old,
 22 properties (30%) have boilers that are 5 years old or younger

Cooking Fuel

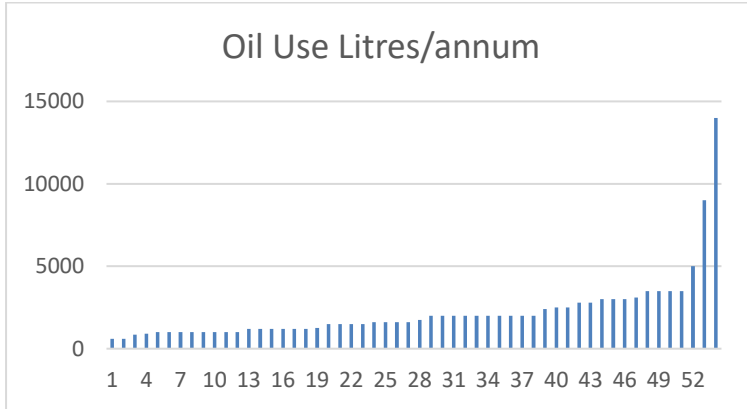
54 properties (75%) use electricity for cooking, the rest use a mixture of oil and lpg.

Hot Water

61 properties (85%) use their boiler or heat pump for the hot water.
 5 properties have solar hot water, it appears 3 of these are using electricity from PV, 2 are solar thermal.
 1 property uses a Rayburn in the winter, kettle in the summer.

Oil Use

54 properties provided oil data. The average is 2,230litres/annum. Three properties stand out as having very high oil use, we have verified two of these figures and we are aware that the third is a very large house. This indicates that we have a reasonable range of house sizes in the survey. Without these three the average is 1,800l/a.



Other heating fuel

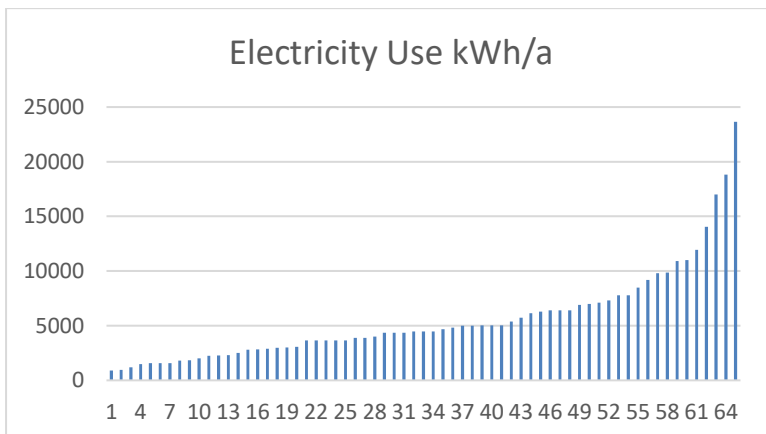
There was also 6,700l of LPG use recorded, 1 tonne of coal, 53 tonnes of wood and 44 tonnes of pellets.

Electricity Use

65 properties provided electricity data. The average use is 5,580kWh/a.

This correlates very closely with the figure recorded for the Lower Super Output Area which includes Hanley Castle of 5,594kWh/a.

There are ten properties with consumption over 9,000kWh/a, these account for 37% of the total electricity consumption. The average excluding these 10 is 4,150kWh/a



Total Cost of fuel

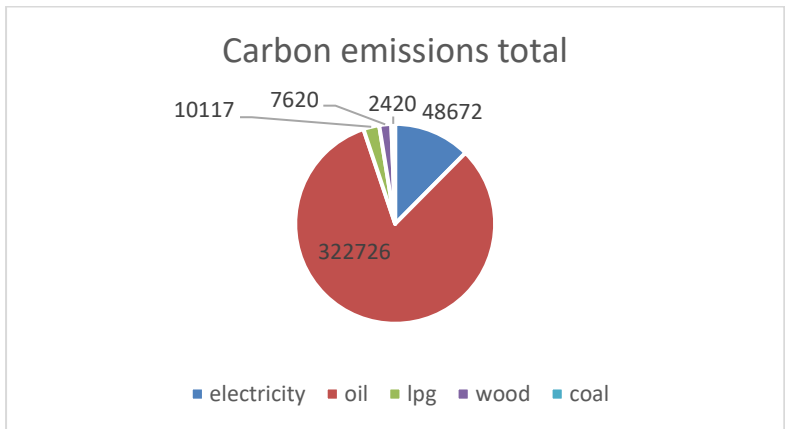
We estimate the total cost of fuel recorded in the survey to be £132,800, £52,600 (43%) on electricity and £80,200 (57%) on oil, lpg and wood.

Not all respondents gave us fuel data, allowing for this, the average cost /household is just over £1,925/a.

If this is average for the whole parish this equates to £1,155,000/a on domestic fuel, based on 600 households.

Total Carbon Impact of Fuel

We estimate total emissions of 401 tonnes of CO₂,
 allowing for 42% of electricity from green electricity tariffs.
 56.6t (14%) from electricity, 344.5t (86%) from other fuels,

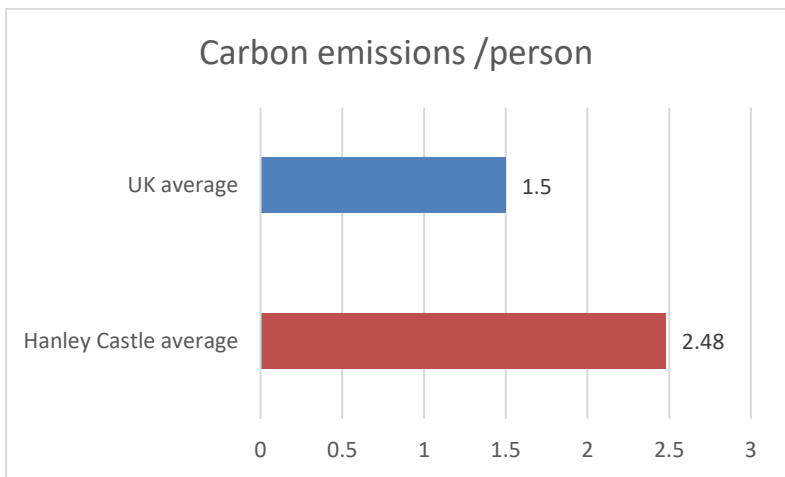


With an average of 5.86t per household/annum or 2.55t/person/annum.

Giving an estimate of 3,516t of CO₂ domestic emissions from the whole parish, based on 600 households.

The 'UK local authority carbon dioxide emissions estimates for 2018' quote 1.5t/person/annum on domestic emissions excluding transport for the UK. **Our figure is 70% higher than this.**

There are many reasons for this; lack of mains gas, predominance of larger detached houses, and older housing stock.



One household has an electric car so there is a little bit of transport in these figures, but they also have PV panels, so the effect is minimal. It will be much more difficult in future to separate out household and transport emissions

**30 properties (42%) are signed up for a green electricity tariff.
 Discounting this would add another 0.6t/p, even further above the UK average.*

HEAT electricity use survey

12 properties have requested a HEAT electricity use survey.

Renewable Technologies

56 properties (78%) don't have any

12 properties (17%) have PV

2 properties have solar thermal and 2 have electric car charging

When completing the survey, It wasn't possible though to put in additional technologies so there may be some under counting here.

Energy Saving Investments

Only 24 properties (33%) have done nothing in the last ten years

3 are new properties, 14 have fitted new boilers, 16 have fitted new windows, 15 mention loft insulation, one solid wall insulation, 2 solar panels

This seems less than the measures reported earlier but some of the PV panels etc may have been fitted by previous owners.

Planned Improvements

26 properties (36%) have planned improvements, including 9 who are thinking of replacing their heating system.

Travel Changes

20 respondents (26%) have already made changes to the way they travel, including working from home, car sharing, cycling more, public transport (2), electric bikes (2) electric cars (1) hybrid car (1)

Another 19 are considering changes, but only 3 of these specified which changes

8 respondents (11%) would not consider changing,

22 respondents (30%) have not yet considered changes.

Dave Green & Fran Hunt
Sharenergy