

Passivhaus social housing

12th September 2017

Birmingham

Costs & values

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Regional Head of Development

Hastoe



This was me when it was suggested we do Passivhaus



It is time for Passivhaus?

Passivhaus homes have been something of a non-starter since they burst onto the scene a decade ago. But are they finally about to go mainstream? Simon Brandon investigates

Inside Housing 17th June 2017



Hastoe overview

- 50 years old
- 5,000 homes
- Working in more than 200 villages and 70 local authorities
- Subsidiaries:
 - Hastoe Wyvern
 - Sustainable Homes



Some of Hastoe's Awards

2015 - 2017

Eco Home – Norwich & Norfolk Eco Awards

Best Sustainable scheme – National Housing Awards

Best Large New Housing scheme – LABC awards

Affordable Housing Development of the year – Green apple awards – Gold

Sustainability award – Mid Suffolk

'Best Rural Development' – Devon Rural Housing awards

Green Apple Award'– Gold

LABC Award' - Best Affordable New Housing

Housing Excellence Award' for energy efficiency

Top 50 UK Affordable Housing Developments' - Inside Housing (two entries)

Most innovative use of renewable technology' - Housing Innovation Awards

Winner 'Sustainable Developer of the Year' - What House? Awards

'Housing association of the Year' - What House? Awards – Bronze

Two times winners of Passivhaus Trusts national design awards

Why Passivhaus

- Low (ish) technology – Contractors risk
- Innovative, but tested
- European experience
- **Benefits to residents**
- Cost more to Build - values don't reflect this

Affordability

- Average dual fuel bill pa £1,233
- Wimbish gas results
 - 3 bed house £120
 - 1 bed flat £52
- Affordable Rents
- Capital costs
- Rent flexibility essential

Hastoe's scheme costs

Scheme	number of homes	Cost	Cost per meter
Wimbish 1	14	£1,617,432	£1,732
Hatfield Heath	14	£1,958,333	£1,807
Horseheath	3	£460,565	£2,056
Wimbish 2	11	£1,874,717	£2,057
Rattlesden	4	£681,127	£2,169
Ditchingham	14	£1,511,930	£1,461
Burnham Overy	6	£898,942	£1,674
Outwell	15	£1,920,000	£1,516
Sharnbrook	13	£2,133,083	£2,029 (on site)

These are net construction costs excluding fees & interest

Current Eastern region Average range of build cost (May 2016)

£1,750 - £1,950

AECOM – cost Management – Passivhaus cost research Project Dec 14

Executive summary

Passivhaus is currently the leading international low energy design standard with over 37,000 buildings designed and tested to the standard worldwide

1.

The standard is growing in popularity in the UK with 250 projects designed and constructed to the standard at the end of 2013. Despite these impressive figures, it is still difficult to get a clear picture of the costs associated with Passivhaus building, particularly the extra over costs compared to standard building practices. In Germany, extra over costs are considered to be between 3 and 8%

2.

In the UK figures quoted for costs may be calculated differently in each case, and include different elements, meaning that it is difficult to make useful comparisons.

To obtain a clearer picture on Passivhaus costs in the UK, AECOM, in conjunction with the Passivhaus Trust, has undertaken a research study into the cost of building to certified Passivhaus standards across a number of affordable housing projects in the UK, using a standardised cost tool to compare projects on a like for like basis. In addition to answering the ‘what does it cost?’ question, we also investigate the extra over costs associated with building Passivhaus certified homes compared to other UK building standards.

The results of this study show that for the project type analysed, an average cost of £1,823/m² of GIFA is achieved. This represents a 17% uplift compared to the CFSH 4 standard which is widely used across the UK.

The cost data has been influenced by significant changes in market conditions over the time period of the study and as such the requirement to continue to monitor Passivhaus project cost data is essential. The need to investigate the inherent benefits of Passivhaus development is also identified, as there is a potential to offset the cost uplifts currently being experienced

Passivhaus - Wimbish



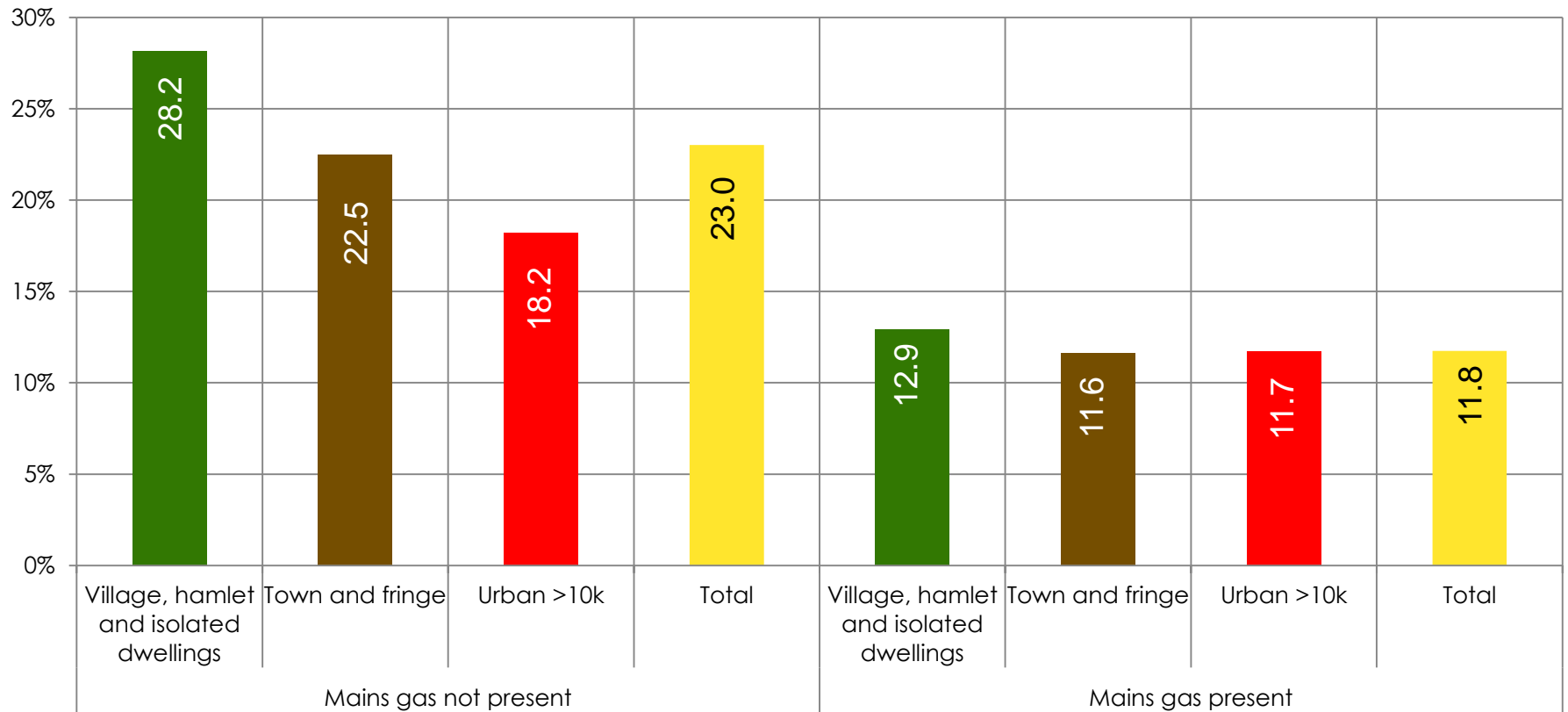
Benefits to Hastoe

- Very low rent arrears
- Better quality materials less maintenance
- Lower residents complaints
- As we are doing more costs are falling

Burnham Overy Staithe, Norfolk, church land with overage on market unit (PH)



Households in fuel poverty



Its easier with gas

Passivhaus - Ditchingham



Way forward

- Must get RICS to recognise Passivhaus homes and make values higher
- Build more Passivhaus homes both Social & Private



Protecting the climate and addressing rural fuel poverty

Passivhaus

- Carbon emissions approx 10% UK average
- Fuel bill 3 bed house £125 pa
- Highly insulated, high performance doors/ windows, minimal thermal bridging, reduced water usage
- Mechanical ventilation with heat recovery



Hatfield Heath



Wimbish Passivhaus Measured Performance & Occupant Feedback

Martin Ingham

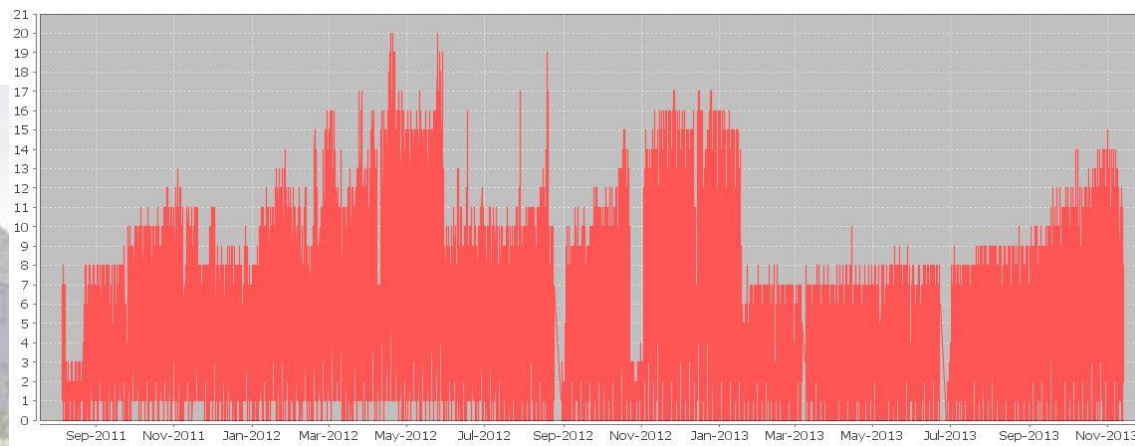
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Ventilation - Filters

- Protect MVHR and deliver filtered air
- Get blocked up
- Fan works harder to maintain air flow, using more energy
- Gets noisier
- Eventually air flow compromised, along with air quality, ability to deliver heat, and heat recovery effectiveness
- Filter replacement is a significant cost > electricity cost
- Industry to solve.



**Happy to Answer questions
Please make them easy!**

