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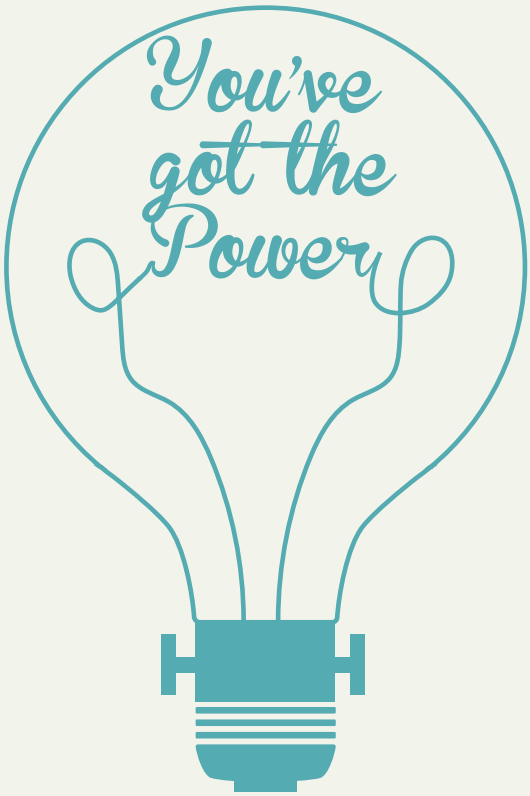

ENERGY EFFICIENCY AND NEW BUILD HOMES

OCT 2017

HBF
HOME BUILDERS FEDERATION

ABOUT HBF

The Home Builders Federation is the representative body for home builders in England and Wales. HBF's membership of more than 300 companies build most of the market sale homes completed in England and Wales, and encompasses private developers and Registered Providers.

The vast majority of home builder members of the HBF are small and medium-sized companies.

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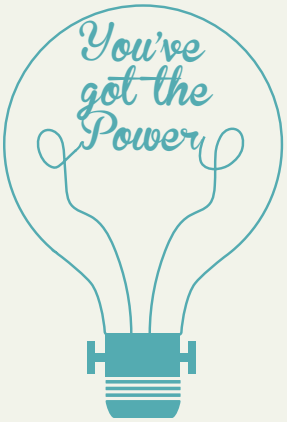


NEW BUILDS SAVE BUYERS AROUND £138 MILLION PER YEAR

The **£629 PER YEAR / £52 PER MONTH** that the average new build buyer saves is equivalent to one of the following:


A latte from Starbucks each working day of the year.


The cost of a mobile phone contract and home broadband.


The average Premier League season ticket and seven away matches.


An off-peak return flight to New Zealand.


More practically, it would cover three and a half weeks of an average mortgage.

Over the past two decades, successive Governments have shown variable interest in the energy efficiency of homes. Over the last decade in particular, the home building industry has continued to build homes to maximise the energy efficiency of new homes thanks to new technology and building materials and meet the demand of discerning home buyers.

With nearly 30% of energy used in the UK being used by households, reduced usage can alleviate pressure put on the country's wider infrastructure and, subsequently, the environment. While environmentalism is a good enough goal in and of itself, there are also significant benefits to households through reduced energy bills over many decades especially in light of energy bills increasing by about 36% in the last decade alone.[1]

ENERGY PERFORMANCE CERTIFICATES

All domestic and commercial buildings in the UK that are being built, sold or rented must have an Energy Performance Certificate (EPC) which advises how energy efficient a property is by giving it a rating from A (very efficient) to G (inefficient). An EPC also provides an indication of how costly it will be to heat and light a property and what its carbon dioxide emissions are likely to be. This important insight into the cost of various utilities is essential for prospective buyers who recognize that the cost of living in a property, especially in times of ever increasing utilities, is an important consideration when making living arrangement decisions.

The EPC regime was introduced in 2007 and unlike other environmental

1.Based on average annual gas and electricity domestic consumption from 2006 to 2016.: https://www.gov.uk/government/collections/energy-price-statistics

policies, such as the 2016 zero carbon goal, has not only stood the test of time but has increased its scope since its introduction to encompass smaller properties than the initial four or more bedroom scope. The ongoing relevance of the scheme was further highlighted in April 2017 when the Government confirmed that the scheme and EU energy efficiency laws would remain in operation after the UK leaves the EU.

ENERGY EFFICIENCY AND NEW BUILD HOMES

In order for a secondhand home to become more energy efficient a number of measures need to be taken to modernise aspects like heating and insulation. Retrofitting such components can be very costly, time consuming and disruptive and, in some cases, can be unfeasible in light of structural constraints. The cost of making such changes and bringing a secondhand property to the energy efficiency standard of a new build property were explored in the May 2017 HBF report, *Avoid the Money Pit: The cost of upgrading old to new*, released to mark the 2017 New Homes Week. These costs will either fall to a new home buyer after purchasing their new home in addition to the sale price or are paid for over the long term by homeowners through higher energy bills.

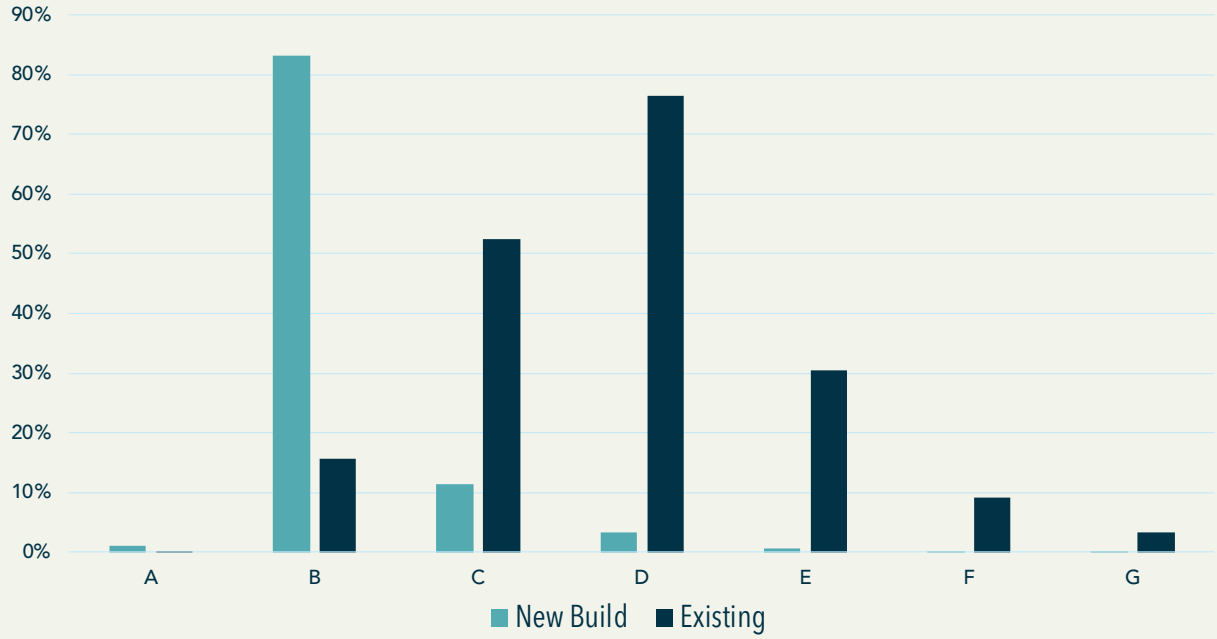
Due to being built with up-to-date technology and materials, a well-designed new build home embeds energy efficiency from the very beginning without the need for an expensive total overhaul upgrade or constant fixing of small issues as they arise. A new build home is compliant with the regulatory regime that housebuilders work within, and will allow buyers to easily pursue additional measures for energy efficiency if they wish. For example, by upgrading to increasingly popular 'Smart' energy systems, customers are able to control their heating via their smartphone or set up a weekly heating schedule. However, adding such technology to a secondhand home could require making significant changes to the existing heating system.

NEW BUILD HOMES AND THE EPC

All new homes must be assessed against Building Regulations using Standard Assessment Procedure (SAP), a compliance tool that assesses the overall performance of the dwelling and the individual elements of the construction and heating/hot water system. This assessment is a Building Control requirement and provides the EPC Rating, allowing the purchaser to compare each homes energy efficiency calculated on a number of base level assumptions.

According to EPC data for the second quarter of 2017, 84.4% of new builds are rated A-B for energy efficiency while just 2.2% of existing properties fall into these categories.

PROPORTION OF HOMES IN EACH ENERGY PERFORMANCE RATING CATEGORY, Q2 2017

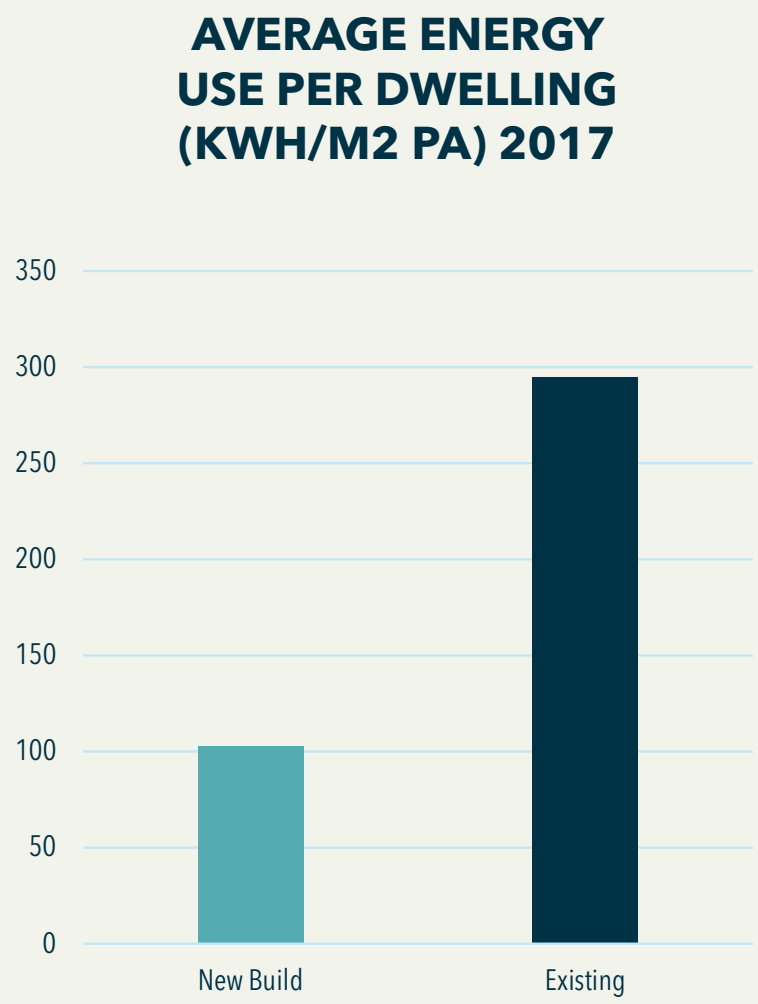


This difference in ratings has a significant impact on the cost of running these new build homes. For example, the 219,146 new builds issued with EPCs in the year to June 2017 in England and Wales cost in total an estimated £97 million per year to run. If they had the same energy performance and fuel costs as existing properties this would be closer to £235 million so collectively by buying new, purchasers of new builds in this period were able to save an estimated £138 million over the course of the year.

LOWER BILLS

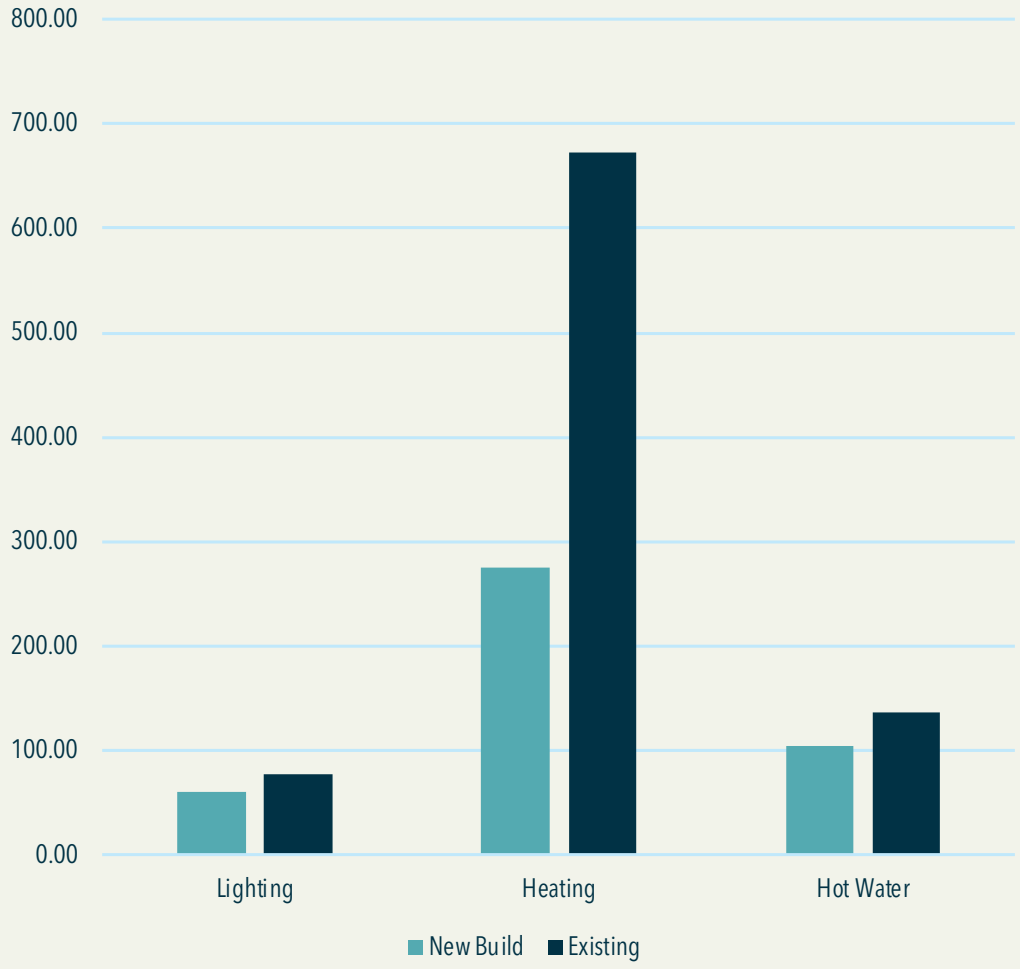
Having a more energy efficient home goes hand in hand with having lower utility bills. A new build home comes equipped with the latest technology and materials which saves homeowners money every month of the year and for many years to come.

Government data shows that homes built in the year to June 2017 use an average of 103kWh/m2 compared with an average for existing properties of 294kWh/m2.



Average fuel costs for a new build as of the year to June 2017 were £443 per year (£276 heating, £108 hot water, £60 lighting) compared with a total of £1072 for older homes.

COMPARISON OF AVERAGE DOMESTIC LIGHTING, HEATING AND HOT WATER COSTS (£) FOR DWELLINGS - YEAR TO JUNE 2017



Heating costs, affected by the less efficient insulation common in older homes, seems to have the biggest differential with older homes costing more than three times as much to heat than new builds. The combined savings for owners of new build properties is estimated at £629 per year which is nearly one month's mortgage payment for the average mortgagee or could cover the cost of a mobile phone and home broadband for a year.

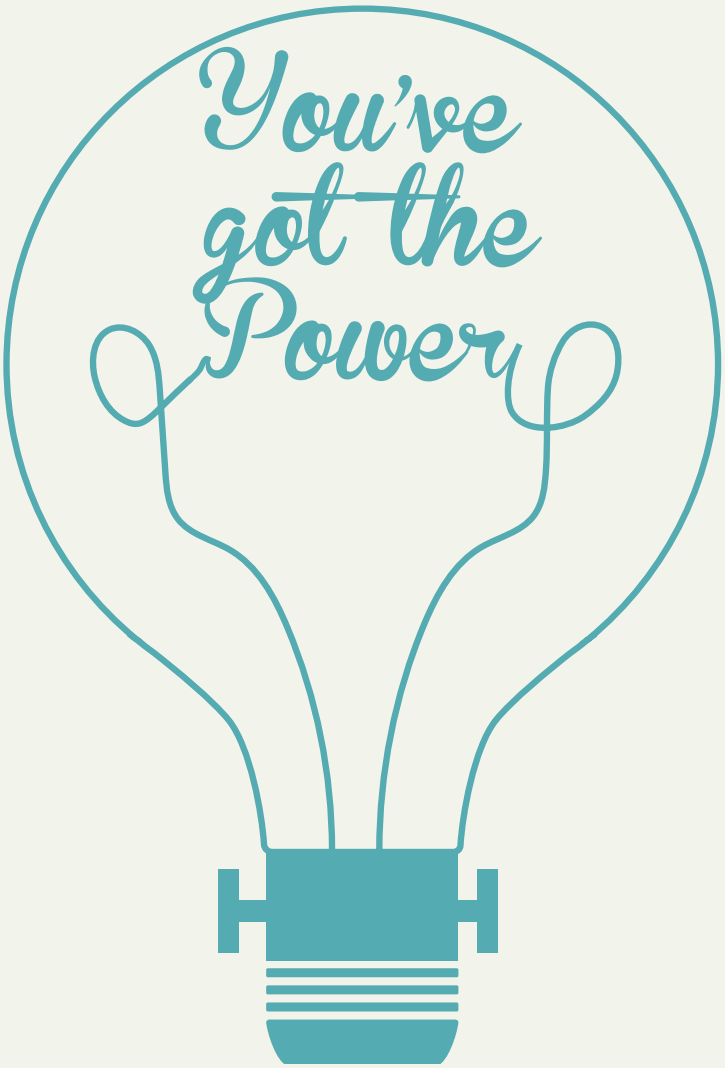
IN FOCUS: WHAT GOES INTO A NEW BUILD TO MAKE IT ENERGY EFFICIENT?

1. **NEW BUILDS ARE TYPICALLY CONSTRUCTED USING CAVITY WALL CONSTRUCTION** consisting of two skins and a cavity containing insulation. Older homes may also be constructed with two skins but can be un-insulated. Properties built in the early 1900s were typically built using solid wall construction and would, therefore, have no additional insulation. The latest, most efficient insulation is six times more efficient than 1960s materials.
2. **NEW BUILDS ARE DESIGNED TO LIMIT UN-DESIGNED VENTILATION** which is an indicator of good workmanship. The designed ventilation which could be a mixture of background ventilation through trickle ventilators in window heads, coupled with a mechanical ventilation system, controls the environment for the homeowner.
3. **THE LATEST DOUBLE GLAZING IS FILLED WITH ARGON GAS** which lets the sun in but reduces heat loss making it twice as efficient as mid-1990s double glazing. This could save a homeowner £80-£110 per year compared to a single glazed house.
4. **EXTERNAL DOORS ARE TIGHTLY FITTED AND SEALED** to prevent draughts and the loss of heat.
5. **GROUND FLOORS ARE DIFFICULT TO IMPROVE IN OLDER PROPERTIES** while new builds must achieve a minimum thermal performance as set out in the Building Regulations and are insulated accordingly, therefore, you know you are getting the best standard right from the start.
6. **IN OLDER PROPERTIES VERY LITTLE OR INDEED ANY INSULATION WILL BE FOUND IN THE ROOF SPACE**, new homes are designed to achieve a minimum level of thermal performance and insulated to the required standard.
7. **CONDENSING BOILERS CAPTURE HEAT AND ENERGY WHICH WOULD BE WASTED BY OLDER BOILERS IN EXHAUST GASES**. As 80% of home energy is used to heat rooms and hot water this, along with modern-standard insulation can make a big difference to what homeowners pay for their power bill.
8. **SOME NEW BUILDS WILL COME WITH APPLIANCES** which are A* or A rated, such as brand new, efficient fridges and dishwashers and have energy efficient lightbulbs such as LEDs. The latter can save £35 per year compared to halogen bulbs in the home.

CONCLUSION

With **96%** of **NEW BUILDS** rated **A-C FOR ENERGY EFFICIENCY**, homeowners of new build homes are able to rely on their homes being **WARMER**, **HEALTHIER**, **BETTER FOR THE ENVIRONMENT** and, most importantly, **CHEAPER** to run than ***older properties.***

Thanks to the **MODERN** technology and materials used by the home building industry, homeowners of new builds can save more than **£600** of their annual utility bills while enjoying living in a comfortable well-designed home that meets the demands of modern-day living.



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