

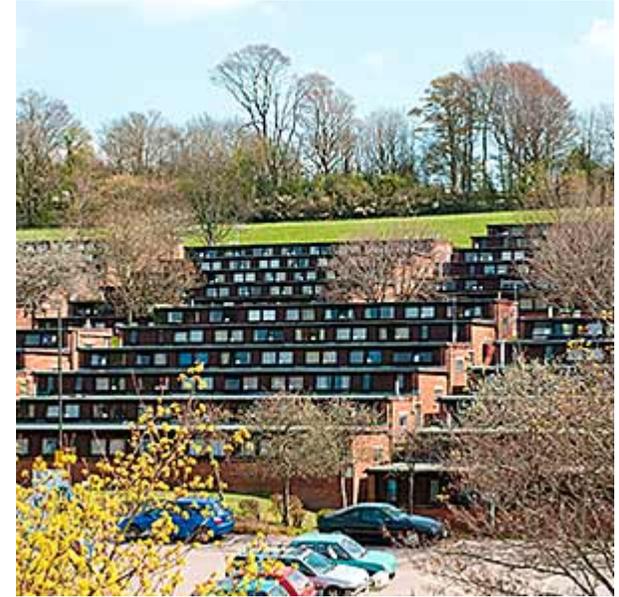
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Housing



£18 million fund to speed up house building on large sites that will provide thousands of new homes where people want to live, has been announced (11 November 2016) by Gavin Barwell. (Housing Minister)



Who lives in a 'New' House like this?

A behavioural study of owner occupiers in their homes



The problem of clothes drying in new homes in the UK
 Della Madgwick and Dr Hannah Wood Brighton,



Abstract

Purpose – The current focus on air tight construction to minimise energy use in homes in the UK requires analysis of the behaviour of the occupants. The purpose of this paper is to review current literature and explore the methods used to dry clothes, to assess current standards and recommendation for the drying of laundry in new homes and the issues arising with increased moisture within the building envelope where there may be inadequate ventilation caused by impermeable design.

HOW DO YOU DRY YOURS?

Laundry drying in the UK

In the UK, most laundry is dried inside either on alders, radiators or in tumble-driers. This can lead to problems in excessive moisture in houses if suitably ventilated drying spaces are not provided.

Historically, laundry has been carried out by the "housewife", washing and drying on one specific day of the week, however, with the increase in working women, the housewife of yesterday no longer exists. Modern laundry needs to fit around working life. Ideally laundry is best dried outside, however due to the high rainfall and low daylight hours experienced in the UK, this is not often possible, especially in the winter months, and therefore laundry needs to be dried by other means.

New Housing, air tightness and ventilation

Since 2006 building regulations in England and Wales and Northern Ireland have required mandatory air leakage testing of new homes to prove that they meet the target air permeability. The benefits of air tightness in new dwellings are seen as considerable due to the reduction in heat loss and therefore energy usage, with poor air tightness being responsible for up to 40% of heat loss from buildings (AHRC, 2004).

However with increased airtightness comes a need for increased ventilation measures in order to provide fresh air for health and well-being and control odour, airborne pollutants and excess humidity. The main pollutant in dwellings is often found to be moisture which has been generated from cooking, washing and clothes drying. Good design in dwellings is normally based on natural ventilation in which either extract fans or passive inter-ventilation is used. Other extract fans or passive inter-ventilation stacks are located in the 'wet areas' of the dwelling. If laundry is dried indoors in areas other than these wet areas (where ventilation is designed to dry the moisture) it will not be removed as effectively, raising the relative humidity in the property.

The science of drying

When washing is carried out in a modern automatic washing machine, much of the water is spun out at high speed and drained, however even the most efficient machines leave a problem with drying clothes. An average 4kg load will weigh 2.2kg after washing (Mackay, 2008).

There is evidence to suggest that between 2 and 2.5 litres of moisture are released from each load of washing drier (Gibson, 1996). When this extra piece of moisture is released it can cause problems if clothes are not dried in a well ventilated area.

Drying outdoors

Requires access to outside space. Clothes are dried directly from the line.

Drying indoors

Requires access to a well ventilated area. Clothes are dried on a radiator or in a tumble drier.

Tumble drying

Requires access to a well ventilated area. Clothes are dried in a machine.

Future research

- Investigate occupant experience and behaviour through focus groups.
- Develop a Laundry Lab and testing of the impact of drying laundry in air tight homes.
- Provide practical recommendations based upon the findings.

References

AHRC (2004) Building Regulations: The air tightness target. 2004.

Gibson, J and Davis, C (2008) Residential Energy Conservation in the UK: A Review of the Evidence. London: Energy Research Centre.

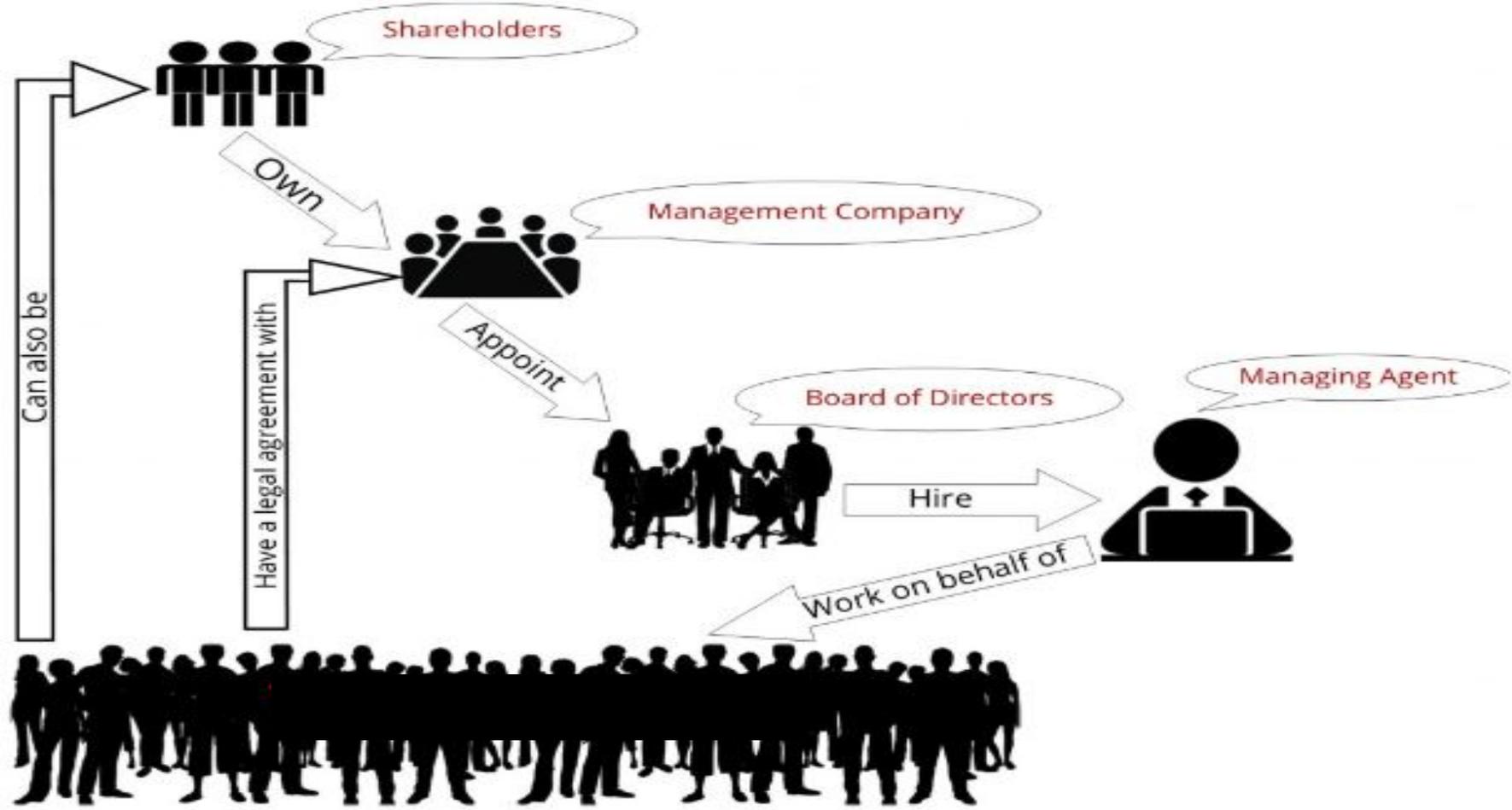
Mackay, B (2008) Laundry Energy: A Review of the Evidence. London: Energy Research Centre.

University of Brighton (2010) Energy Efficient Homes: A Review of the Evidence. Brighton: University of Brighton.

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Scan here to read the paper:
 Drying Laundry in New Homes - Preliminary Observations from the UK

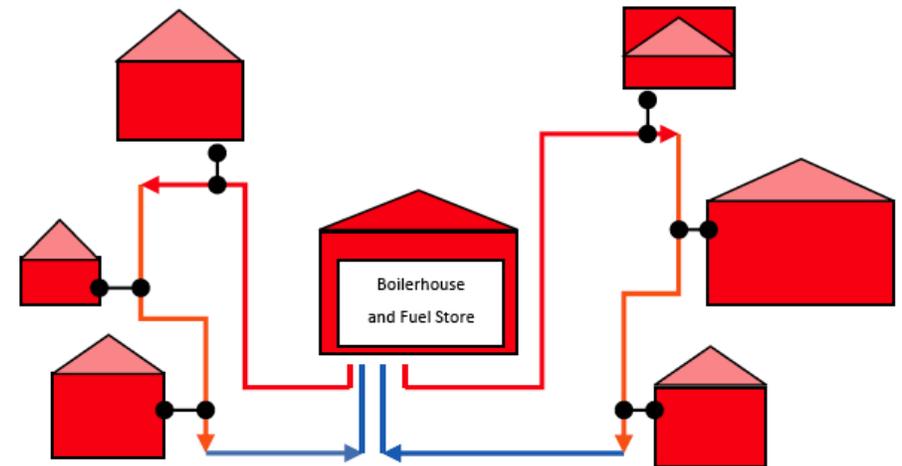


Conclusion

- There is little clarity on what level of service charge will be made to residents on new estates in the UK, the deed of transfer is often lacking in detail regarding the specific services which will be provided.
- The variance in estate size and design means there do not appear to be any adequate benchmarks in existence or being developed or any suitable parameters for measurement of appropriate sinking funds.
- There needs to be much more clarity written on deeds and benchmarks developed for specific circumstances so new purchasers can judge value for money.

Latest Research Projects

- *Role of Large Scale Housing Designers and Specifier's in Home Burglary Reduction* Emmanuel Aboagye-Nimo,
- The role of district heating on new residential estates



Research contribution

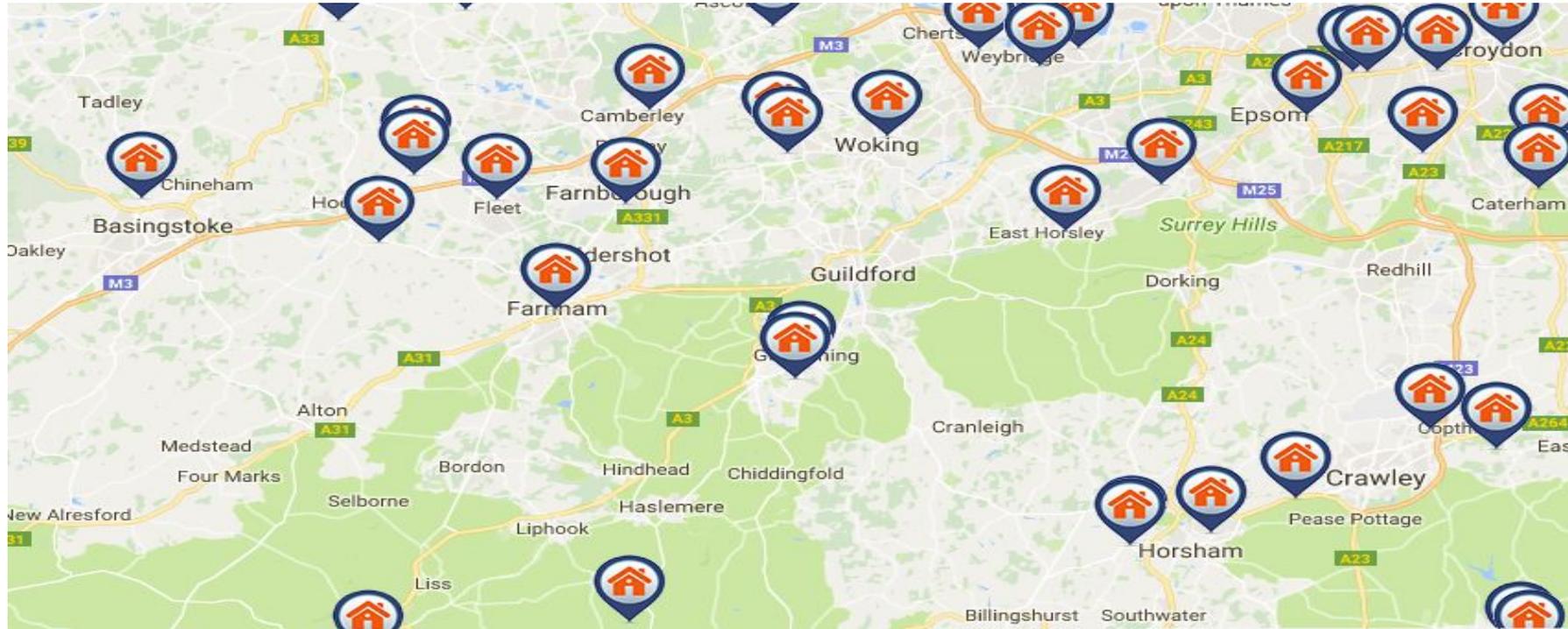


Our work



University of Brighton

Approx 156,000 new homes completed in 2015
23,500 in the South East (NHBC)



Large Scale Housing Projects – many on new urban-fringe estates.

Integrating Students with Research

- 2nd Year Building Surveyors



The Round Hill Society

Final Year Dissertations





- If you design new homes
- If you build new homes
- If you manage new homes

- If you have ideas?

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