The Chartered Institution of Building Services Engineers (CIBSE)

CIBSE is the primary professional body and learned society for those who design, install, operate and maintain the energy using systems, both mechanical and electrical, which are used in buildings. Our members therefore have a pervasive involvement in the use of energy in all types of buildings the UK, including homes. Our focus is on adopting a co-ordinated approach at all stages of the life cycle of buildings, including conception, briefing, design, procurement, construction, operation, maintenance and ultimate disposal.

CIBSE is one of the leading global professional organisations for building performance related knowledge. The Institution and its members are the primary source of professional guidance for the building services sector on the design and installation of energy efficient building services systems to deliver healthy, comfortable and effective building performance.

There are two networks which have a particular focus on homes:

i) **CIBSE Homes for the Future Group** – this special interest group aims to inform and promote best practice in building services when constructing or renovating better homes. The main areas of interest will be energy strategies and services for new and refurbished homes, and their integration with overall fabric and design

ii) **CIBSE Domestic Building Services Panel** – the Panel is dedicated to the furtherance of best practice in the survey, design, installation, commissioning, operation and maintenance of domestic building services. This is for the safe, efficient and reliable provision of comfort in domestic buildings through the services, and also the systems associated with energy supply and use.

1. **Why have previous approaches to energy efficiency failed to deliver significant results?**

   1.1 Previous approaches to energy efficiency have failed to deliver significant results because there has been no consistent approach. Energy efficiency
needs to be treated as a national infrastructure priority and a coherent vision should be articulated across commercial and public buildings, non-domestic and domestic buildings.

1.2 There is history of a disjointed policy landscape when it comes to energy efficiency in the UK which has led to poor outcomes. Coherency is required to provide appropriate market signals to industry and business, and to provide the public with confidence that the Government is taking a long term view.

1.3 The levels at which energy efficiency schemes have been delivered in the past has been confusing; some are national whilst others are local, some are free whilst others are discounted or require loans, some are based on geographical area whilst others focus on incidence of fuel poverty. It is difficult for people to navigate through this maze and take action to make their homes more energy efficient.

1.4 Clear information, trusted installers and quality standards for energy efficiency improvements are not consistent across the country. Schemes have been complex, not been properly resourced and not given enough time to gain momentum or build capacity.

1.5 Considerable research has been carried out gathering insights into consumer perspectives surrounding refurbishment. For example, Project CALEBRE (Consumer-Appealing Low Energy technologies for Building Retrofitting) is an E.ON / Research Councils UK-funded research project involving a partnership of six leading UK universities, led by Loughborough University. Over 4.5 years (October 2008-April 2013), CALEBRE investigated a selection of technologies, specifically from the perspective of domestic refurbishment. These technologies range from the well-known (heat pumps and MVHR) through to new and emerging (vacuum glazing) and on to blue skies (advanced surface treatments).

2. What lessons can be learnt from current and previous schemes including Green Deal, Green Deal Home Improvement Fund, and ECO?

2.1 That schemes cannot be allowed to be diluted. They need to be accessible, easy to implement, and not require any special actions or investment on the part of the homeowner/occupier. Furthermore, energy efficiency needs to be considered a selling point. Current statistics show that house prices are not influenced by EPC ratings. The minimum EPC requirement for rental
properties may change this, however, the lower limit of E is too low to make a big difference and sends the message that Government does not take energy efficiency seriously. Also without proper enforcement, F&G rated buildings will continue to be let quite freely. Lack of compliance is frustrating the well-intentioned efforts of Government and industry to reduce the energy consumption of UK buildings.

2.2 CERT and its predecessors were successful schemes that filled lots of cavities, insulated lofts and changed light bulbs but the Green Deal has not been as successful because it is complex and puts burdens on the owner. If under CERT, householders were offered free insulation and they turned it down, how many are going to take loans out to do the same work?

2.3 The recently launched Bonfield Review is drawing on a range of industry, academic and consumer expertise to look at standards, consumer protection and enforcement of energy efficiency schemes and to ensure that the system properly supports and protects consumers. This review should capture what has and hasn’t worked well for past energy efficiency schemes.

2.4 A research centre funded through the UK Research Councils’ Energy Programme is, amongst other research strands, using behavioural science to understand why consumers make certain choices, what influences levels of consumption, and where rebound effects occur. i-STUTE is an interdisciplinary centre for Storage, Transformation and Upgrading of Thermal Energy. It develops technologies that aim to reduce energy consumption and deliver cost-effective heating and cooling which will help the UK achieve its target of a reduction in greenhouse gas emissions of 80% by 2050.

3. How does the UK’s performance on home energy efficiency compare with other countries? What lessons can be learned from these countries on energy efficiency?

3.1 There are lessons that can be learned from successful schemes with the UK. For example, the Kirklees Warm Zone was a pioneering local authority home insulation scheme which offered free loft and cavity wall insulation to every suitable household in Kirklees. The simple, area-based approach proved to be very efficient and the payback measureable in terms of job creation, emissions reductions, energy savings and fuel bill savings. The local authority
made a significant upfront investment and this was added to by an energy supplier.

3.2 Energiesprong is a deep retrofit initiative which originated in the Netherlands. It is based on the core principles of: an insurer backed energy performance guarantee by the contractor, a 10 day delivery timetable of all work, affordability (the investment is financed by the resulting guaranteed energy cost savings) and attractiveness (the refurbishment package must be attractive to occupants, both improving residents’ quality of life and the appearance of the house). This market-led approach is being trialled in the UK and lessons can be learned from the focus on quality and assured performance, affordability, and desirability.

3.3 The American Council for an Energy Efficient Economy has produced a comparative study of energy efficiency policies and performance across 16 economies of the world. In the analysis, each of these economies is evaluated using 31 metrics in four sectors: national efforts, industry, buildings, and transportation. The information on residential buildings could help to contribute to a comparison of energy efficiency in other countries.

October 2015