

**Written Response submitted by MIMA to the  
All Party Parliamentary Group for Excellence in the Built Environment's Inquiry into  
the Quality of New Build Housing in England**

**Introduction**

1. The Mineral Wool Insulation Manufacturers Association (MIMA) is a trade body providing an authoritative source of independent information and advice on glass and stone wool insulation. MIMA actively promotes the benefits of mineral wool insulation and the contribution it makes to the energy efficiency of buildings and the comfort of their occupants.
2. We represent four of the leading insulation companies in the UK - Isover Saint-Gobain, Knauf Insulation, Rockwool and Superglass.
3. We welcome the opportunity to feed into the All Party Parliamentary Group for Excellence in the Built Environment's Inquiry into the quality of new homes in England.
4. Our response focuses on the following areas of the Inquiry's terms of reference:
  - i. Ensuring the effective control and implementation of regulations impacting on the construction of new homes
  - ii. Cutting operational and maintenance costs for the homeowner; and improve new home owner experience
  - iii. Ensuring better quality workmanship

**MIMA's vision for high-quality new homes: the three, key elements**

5. How well the nation's new homes "function", and particularly their energy performance, should be high amongst the list of things we consider to be attractive qualities in our housing stock. Energy efficiency and "high-quality" are two sides of the same coin.
6. In order to deliver quality new homes, particular attention must be paid to three goals:
  - **Goal 1: Energy efficiency** - Enable the people who buy new dwellings to use less energy to run them. Well insulated homes don't leak heat through the walls and roof, wasting valuable energy.
  - **Goal 2: Reliable energy performance** - Ensure the measures installed to make new homes energy efficient and comfortable work as intended so that consumers see the energy performance they expect, and the UK saves energy and carbon to meet carbon budgets.
  - **Goal 3: Comfortable** - Make homes safe, comfortable and warm to live in all year round to support people's health and wellbeing.

**Goal 1: Energy efficient new homes**

7. Overall, the UK's housing stock is currently among the least energy-efficient in Western Europe. Our homes should be a source of pride – not amongst the leakiest.

8. As the UK and Europe seek to upgrade the sustainability of its building stock and reduce greenhouse gas emissions, mineral wool insulation is key to the creation of very low energy buildings. Energy efficient, well-insulated homes can permanently reduce a household's energy use and fuel bills by hundreds of pounds each year and help lift 9 out of 10 households out of fuel poverty. In addition, the health sector, the economy and the energy security of the UK all benefit from improving the energy efficiency of the building stock.
9. At a national scale and as indicated by DECC's figures, energy efficiency schemes have contributed to nearly a 30% drop in UK domestic gas consumption in the last 10 years, saving millions of households money on their heating bills. And that saving is repeated year after year. By MIMA's calculations, had the median household gas consumption remained at 2005 levels, householders could today be paying out over £5bn a year more on energy bills at current prices.
10. It is not yet clear how the Government intends to continue driving such remarkable benefits in new homes, but the need is urgent. Cutting policies designed to support energy efficiency is a false economy.
11. Specifically, the cancellation of the Zero Carbon Homes policy so close to implementation in 2016, is disappointing. The construction sector has actively engaged in the process and invested £millions in research and development into how to deliver zero carbon homes, which will not be required by the market at the scale envisaged unless further standards are implemented. This damages investor confidence.
12. One of the reasons given by the UK Government for cancelling the zero carbon homes policy is that it could hamper the delivery of new housing. It was viewed as a cost/regulatory barrier. However, research carried out by the Zero Carbon Hub in 2014 suggests that support for the regulation was very high and that the estimated direct costs associated with delivery had roughly halved over the last ten years to as little as £5,000 for a standard house (including "Allowable Solutions").
13. For consumers, the decision not to press-ahead to build new homes to the zero carbon standard will cost people in terms of fuel bills. For example, based on the Zero Carbon Hub's proposed definition of zero carbon homes, a family living in a 3-bed semi-detached house could have saved £330/year on their energy bills compared to a home built to 2013 standards.
14. Now that updates to Part L of the Building Regulations will no longer take place in 2016, MIMA's members wish to see the UK government push hard to ensure that plans for very low energy buildings continue and that the European Nearly Zero Energy Buildings requirements have teeth. The Government should not simply rubber stamp current (2013/14) standards as sufficient.
15. In the UK officials have not yet said how they expect to deliver against the EU's NZEB requirements. This absence of clarity is damaging to the UK industry's ability to prepare. Furthermore, without any information on a definition coming forward, there is a risk that "cost optimality" becomes the only driver, which in practice could mean that the buildings being delivered today will not look significantly different to those being built in 2021.
16. When calculating which standard is "cost optimal" for the UK, the wider benefits of energy efficiency relating to health and wellbeing, energy security and the return on investment should be included in the equation.

17. For example, recent reports by ResPublica<sup>1</sup> and Frontier Economics<sup>2</sup> reveal that a programme to make UK homes energy more efficient would provide net economic benefits of £8.7 billion to our economy. This is based on the Government's own economic analysis, delivering comparable economic benefits to infrastructure initiatives such as HS2 Phase 1, Crossrail and new roads.
18. We strongly support the argument made in those reports that upgrading our whole housing stock should be classed as an infrastructure priority by HM Treasury, helping to attract the necessary finance<sup>3</sup>. The industry is unified in this position.
19. In conclusion, by committing to and securing a solid outcome at the European level for 2019/20 the industry can remain invested in continuing to prepare and up-skill. The huge amount of learning and preparation over the last 10 years for zero carbon must not go to waste.

#### **Recommendation 1:**

**Following the sudden cancellation of the zero carbon policy for new build homes in July, it is even more important that the UK Government shows leadership over the next year to secure a good deal in Europe on "Nearly Zero Energy Buildings".**

**As part of the Energy Performance of Buildings Directive, the UK Government must report to the European Commission in 2017 on whether UK building standards are 'cost optimal' and ensure that all new homes are 'nearly zero energy buildings' from 2020. However, it is up to Member States to define what is meant by the "very high energy performance" required of a NZEB building. An early and ambitious definition of NZEB could be called for from the UK Government, preferably expressed in kWh/m<sup>2</sup>/y, and including a building fabric performance standard.**

#### **Goal 2: Reliable energy performance**

20. We must ensure the measures installed to make new homes energy efficient and comfortable work as intended so that consumers see the energy performance they expect, and the UK saves the energy and carbon it needs to meet carbon budgets.
21. A number of organisations have been researching the so-called energy "performance gap" in new homes, including Leeds Beckett University, the Zero Carbon Hub and Sustainable Homes.
22. MIMA has sponsored and actively engaged in some of this work. Our research has, for example, demonstrated the benefits of insulating party walls between properties – which was not until recently common practice. This work has the potential to lead to energy savings for around 5 million households in the UK (in new and existing dwellings) worth around £465 million per year in total.
23. The sector's best estimates are that, on average, there is a gap of up to around 20% between the way buildings are designed to perform, and the way they perform once built. The gap often occurs because things go wrong during the construction process, so the whole-house performance

<sup>1</sup> <http://www.respublica.org.uk/wp-content/uploads/2015/09/After-the-Green-Deal.pdf>

<sup>2</sup> <http://www.frontier-economics.com/documents/2015/09/energy-efficiency-infrastructure-priority.pdf>

<sup>3</sup> <http://www.frontier-economics.com/documents/2015/09/energy-efficiency-infrastructure-priority.pdf>

suffers. Once occupied, the gap can widen should people behave in ways the models do not predict – which is highly likely.

24. At present a company who does their “SAP” assessment and is shown to comply with Building Regulations, is treated in the same way as a company who works harder on the training of installers, detailing of construction joints and the measurement of actual energy performance. The difference is that the consumer buying a property worked on by this second company will get a much better home.
25. It has also become evident that the processes within DECC and DCLG for adding new, high-performing measures and systems to energy efficiency programmes such as the Energy Company Obligation (ECO) and Green Deal is extremely challenging and non-transparent. This is hampering innovation and penalising companies for going beyond minimum standards. MIMA has been working with DECC to improve this situation, but the process is still far from clear. MIMA’s members would urge the All Party Parliamentary Group on Excellence in the Built Environment to encourage the Government to review the balance of regulation and policy on energy performance with the aim of seeing it tip more towards recognising and incentivising “as-built” performance.
26. MIMA supports the goal that from 2020 the sector should be able to demonstrate that 90% of new homes meet or perform better than the designed energy/carbon performance. . A commercially viable, and simple way to demonstrate a building’s as-built performance is urgently required, but we also believe there are companies working to develop such tests and methods. Having such tests will allow Government to introduce post-completion thermal testing into UK-wide Building Regulations from 2018 to tie in with European NZEB requirements
27. Finally, our research has demonstrated that the versatility, breathability and fit of mineral wool insulation, in particular, means that performance gap issues are less likely to occur. The fit and flexibility of the material means it can fit snugly around buildings, into loft spaces and inside cavity walls. Mineral wool products fill up the gaps in the spaces where cold spots or air movement could otherwise form, making them particularly effective at delivering high performance once installed.

**Recommendation 2:**

**MIMA’s members wish to see policies come forward to officially recognise and incentivise companies and organisations who are focused on delivering reliable “real” whole-house energy performance, and closing the performance gap.**

**MIMA supports the idea of post-completion testing for thermal performance. This testing could be linked to a Robust Details type approach similar to that already required by Building Regulations for acoustic performance, where the developer chooses between a high rate of testing or less frequent testing coupled with higher standards of performance.**

**This or some other form of penalty for poor thermal performance would incentivise real whole-house performance. Alternatively/additionally it should be possible to minimise the “as-built” versus “as-designed” performance gap by driving higher standards of on-site installation through the introduction of a mandatory quality assurance standard covering design, on-site monitoring and installation.**

**One further important piece missing from the jigsaw is the current lack of effective surveillance, policing and enforcement by the regulatory authorities with penalties for non-compliance.**

**Goal 3 : Comfortable and safe homes**

28. Just as important as energy performance is how comfortable, safe and pleasant it is to live in new homes. Any high quality new home should be safe, warm and comfortable all year round. This means, for example, having good acoustic performance, fire safety, indoor air quality, thermal performance, and being sustainable. Thankfully, it is still relatively rare for people to experience issues with their homes, such as moisture problems, homes being too hot in the summer, or homes being too stuffy with poor air-quality. However, these issues could become more commonplace in the future if not fully addressed by the sector now.
29. Government departments and academics, with support from MIMA and other trade bodies, are currently investigating the potential for moisture in buildings to cause damage to building fabric and occupant health.
30. Although there are more likely to be moisture issues in older existing homes being upgraded, very airtight new homes also need good ventilation and would benefit from breathable insulation products such as mineral wool. MIMA welcomes the clear determination in DECC, DCLG and BIS to address this issue and is working closely with them on the development of new standards.
31. Regarding thermal comfort, poorly designed buildings can overheat as well as have other problems such as poor indoor air quality. If overheating occurs, it is usually the result of a combination of factors, such as lack of shading from the sun or poor ventilation preventing hot air from being “purged”.
32. Insulation can be a core part of a designer’s strategy for achieving year-round comfort in a building. Insulating with mineral wool, for example, can help to keep heat out during the summer, as well as keep heat in during the winter as part of a well thought-out design approach.
33. The Committee on Climate Change’s Adaptation Sub-Committee recently called for a “standard” on overheating in homes. The Government’s response, published on 15 October 2015, acknowledged the issue and officials are reviewing the possible next steps.
34. MIMA supports efforts being made to ensure new and existing homes do not overheat and have good indoor air quality, but we must also ensure that any new policies do not inadvertently damage the energy efficiency agenda by fuelling media stories that incorrectly give the message that “eco homes” are bad. This is not the case. For example, overheating has been observed in a variety of homes – new and old.
35. When researchers look into why some buildings have issues such as poor indoor air quality, moisture, or high internal temperatures, they usually find a combination of well-recognised causes. This gives us reason to be optimistic about designers and developers being guided to spot potentially risky combinations of location, orientation and building design early enough in construction projects to allow modifications to be made. In the majority of cases, the risks will be low and no further action will be needed.

**Recommendation 3:**

**Key building performance criteria such as acoustic performance, fire safety, indoor air quality, avoidance of overheating, embodied environmental impact, end-of-life considerations, etc. should be recognised in a more holistic way that better represents the building’s function.**

**This can be achieved through closer integration of the separate parts of the Building Regulations. This holistic approach would ensure that full consideration is given to a wide range of impacts of the building on its occupants throughout its lifetime, early in the design process when amendments can be made to mitigate negative impacts. For example, designers often chose products based on their apparent thermal conductivity (declared in lab as opposed to in use) with other important performance characteristics being considered as an afterthought, often when it is too late to change the product specified.**

**In short, there is an opportunity now to achieve greater integration of the various parts of Building Regulations covering thermal, fire, acoustics, ventilation etc. based on the specified building function. Such a positive step would drive quality and consumer confidence.**

## **Conclusion**

For over 10 years MIMA's members have been researching how the use of mineral wool insulation can help to improve the energy performance, quality and comfort of people's homes.

All MIMA members' insulation products are tested to the highest standards and are certified by organisations such as the BBA. Our members work right across the industry in Europe and the UK to drive product safety and installation standards, including with organisations such as the BSI.

We also work closely with government departments, CIGA, SWIGA, the Zero Carbon Hub, and many more to find proactive solutions to things that can sometimes go wrong in homes, such as moisture issues, overheating and less than perfect performance.

MIMA wishes to see government policies embed the following three goals into its policies on housing delivery, to ensure new homes:

1. Are energy efficient
2. Have reliable energy performance, and
3. Are safe, warm and comfortable to live in, to support health and wellbeing

Rushing to meet increasing demand for housing by delivering sub-standard housing which then needs to be retrofitted in years to come may prove to be an expensive, false economy.

## **For further information, please contact:**

Sarah Kostense-Winterton  
Executive Director  
Mineral Wool Insulation Manufacturers Association (MIMA)  
Email: [sarah@mima.info](mailto:sarah@mima.info)  
Tel: + 44 (0)20 7293 0870

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