Thank you for your letter dated 27 February 2019.

Thank you for raising this important issue. The Government is committed to improving standards and ensuring homes are fit for the future. The Government launched the buildings mission to do just that, by reducing the energy use of buildings by half by 2030. Today, the Chancellor announced the Future Homes Standard, which will apply from 2025. We will be consulting later this year on how best to deliver this, as part of the overall Buildings Mission.

You may be interested to know that we are launching a national design competition, ‘Home of 2030’, as part of our Clean Growth and Ageing Society grand challenges. This seeks to recognise innovative approaches to higher quality, more energy-efficient housing that also address the needs of an ageing population. Through this engagement with industry and other stakeholders, we aim to better understand the barriers in policy, regulations and standards. This has the potential for:

- Improved health and social care outcomes for individuals, by supporting independent living and reduced loneliness and encouraging activity and purpose.

- Reduced healthcare and social care costs by improving air quality and reducing the risks of high/low temperatures in the home, while supporting independence and reducing the need for care packages and stays in hospital or care homes institutional care.

You set out a number of issues raised by Dr. Gesche Huebner (UCL Energy Institute) at your recent ‘My Science Inquiry’ session. I will respond to each of these points in turn.
Where Government funding should be directed to fill knowledge gaps on the impact of climate change on health and productivity in the UK

In November 2018 Defra published, along with the UK Met Office, an updated set of climate projections for the country. These projections can help national and local Government, and businesses consider the risks associated with climate change and make climate-resilient decisions. The key results can be found at: www.metoffice.gov.uk/research/collaboration/ukcp/key-results. The Government's 2017 UK Climate Change Risk Assessment identifies six priority risk areas due to climate change, including risks to human health, wellbeing and productivity from high temperatures.

Defra and the UK Devolved Administrations are currently working with the Adaptation Sub-Committee of the Committee on Climate Change on delivering the evidence review for the third Climate Change Risk Assessment, scheduled for 2022, including filling identified evidence gaps through six associated research projects.

The move to cleaner economic growth – through low carbon technologies and the efficient use of resources – is one of the greatest opportunities of our time. The 2018 Clean Growth Strategy and 2017 Industrial Strategy set out clean growth can have society-wide benefits, including cleaner air through reduced emissions as we move to electric vehicles and cleaner forms of heating, as well as significant opportunities for the UK economy in terms of product innovation and improved productivity.

The UK is a global leader in climate science and will continue to play a key role in addressing research needs regarding the impact of climate change, including on present and future weather and climate risks, the impacts and opportunities of mitigation and adaptation and the case for early action.

Furthermore, in January this year, Defra published its Clean Air Strategy, which recognises that exposure to the pollution present in our atmosphere remains one of the UK’s biggest health challenges and set out the steps that the Government is taking to tackle this.

As part of the Government's work on improving air quality, we are investing £10 million in improving our modelling, data and analytical tools to give a more precise picture of both current air quality and the impact of future policy decisions.

In addition, we will increase transparency by bringing local and national monitoring data together into a single accessible portal for information on air quality monitoring and modelling.

Whether current standards and regulations are fit for purpose and future-proofed

What actions the Government is taking to investigate the potential impacts of rising CO2 levels on cognitive performance and building energy use

In raising these questions, Dr. Huebner pointed out that, although the Industrial Strategy seeks to halve energy use of new buildings by 2030, overheating is also a significant challenge in new buildings.
Part F of the Building Regulations requires the provision of adequate ventilation in buildings, including performance-based standards, which cover a range of the most harmful pollutants. The standards for homes are based on the pollutants of moisture, bio-effluents, nitrogen dioxide (NO₂), carbon monoxide (CO) and total volatile organise compounds (TVOCs). They do not include CO₂, however other building types, such as schools, do have standards based on CO₂. The Government will review the energy efficiency standards of the Building Regulations later this year. Alongside this, MHCLG will consult on revisions to Part F of the Building Regulations and on a method for reducing overheating risk in new homes.

*Are consistent metrics used for collecting data which inform policy development in this area*

The two figures cited by Dr Huebner measure two different heat-related death rates. Both metrics are appropriate but should not be compared or conflated as the same measure. Public Health England reported 906 heat-related summer deaths in 2016, during periods of very hot weather. This metric accounts for the additional deaths during periods of particularly hot weather, adjusting for mortality that would have occurred regardless of heat. Their reporting therefore only includes deaths between 24 May and 30 September 2016 during days on which a Level 3 heat-health alert (Heatwave Action) had been issued or there was a mean Central England Temperature greater than 20°C.

In contrast, the figure reported by the Committee on Climate Change in 2017 referenced 2,000 annual deaths from heat-related conditions. This metric is based on an estimated number of deaths in which high temperatures were a contributory factor. Such estimates provide a measure of the wider impact on health from high temperatures, providing an estimate of the magnitude of the problem across the summer, as opposed to during ‘heatwave’ events. This approach reinforces the importance of year-round, long-term action. While both metrics have their limitations, the Government is committed to using the best data available to build a comprehensive picture in order to inform public health measures.

*How does the Government cost health benefits into its calculations and policies which are intended to mitigate climate change?*

There are several ways in which health benefits can be realised through climate change policies. For example, encouraging active travel and more sustainable transport can improve public health through better air quality and increased exercise, while at the same time reducing greenhouse gases. By considering the co-benefits from climate change policies, it is possible to maximise potential gains for public health.

Demonstrating the health impacts of work undertaken to mitigate climate change is challenging. As with any approach to improving public health, the interactions between the different factors affecting individual and population health outcomes make quantifying the health benefits in isolation very difficult. This is especially true for interventions aimed at tackling environmental determinants of health, as these require changes across the system and the related health benefits may only be observed some years later. As part of the Clean Air Strategy, the Government has published updated appraisal tools and accompanying guidance to enable the health impacts of air pollution to be considered in every relevant policy decision that is made. These can be found at: https://www.gov.uk/government/publications/air-pollution-a-tool-to-estimate-healthcare-costs
Thank you again for taking the time to write and I hope that you find this information useful.

Yours sincerely,

THE RT HON CLAIRE PERRY MP
Minister of State