

## **Environmental Audit Committee Inquiry**

**Possible Future Inquiries: Energy efficiency of existing homes**

**Rt Hon Philip Dunne MP**

**Chair of the EAC**

**House of Commons**

**London SW1A 0AA**

9<sup>th</sup> April 2020

Dear Philip

### **EAC Inquiry: Energy Efficiency of Existing Homes**

Thank you for your time and giving the opportunity to the Healthy Homes and Buildings All Party Parliamentary Group to discuss the important issue of improving energy efficiency in existing homes and its wider impact on the indoor environment and on health and wellbeing across the UK.

We very much hope that the Environmental Audit Committee will, as a matter of priority, focus on Energy Efficiency of existing homes during the first year of this Parliament. Our Healthy Homes and Buildings APPG [White Paper, 'Building our Future: Laying the Foundations for Healthy Homes and Buildings'](#) sets out a number of recommendations to Government to ensure that the new and existing homes we live in are healthy and do not cause or exacerbate ill health and wellbeing. It sets out the cost benefits which can be gained from constructing and retrofitting our buildings and homes to the highest levels of comfort and quality.

Given that we are all currently spending so much time at home – we believe it must be a priority for the EAC to investigate and gather evidence on, and highlight, the health and environmental problems caused by energy inefficiency in existing homes.

As you know, I am passionate about the environment and the need for existing homes to be retrofitted to optimise the health of its occupants. There are just too many unintended consequences – not just to the environment - if Government do not pursue measures to improve and transform the quality of our existing housing stock. Further information about the costs to the UK are shown here in our [infographic](#).

We appreciate that the EAC focus is very much on the environment – but as 'Our Planet, Our Health' makes clear – the connection between health and wellbeing and the environment is very strong, as are the benefits to both by ensuring that we build and retrofit healthier housing in the UK.

I am delighted to submit our evidence to support the need for Energy Efficiency of Existing Homes to be the focus of the Committee's work and hope that the EAC will take on board the points we make and we may have an opportunity to give evidence to the EAC.

Yours sincerely



**Jim Shannon MP**

**Chair, All Party Parliamentary Group for Healthy Homes and Buildings**

Submission prepared by:

All Party Parliamentary Group for Healthy Homes and Buildings

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### All Party Parliamentary Group for Healthy Homes and Buildings Submission

#### In support of an Environmental Audit Committee Inquiry into Energy Efficiency of existing homes

The APPG for Healthy Homes and Buildings was established to highlight the health and societal cost benefits of constructing and renovating buildings and homes in a holistic manner, to maximise the health and wellbeing of occupants, whilst ensuring the highest levels of energy efficiency.

When looking at energy efficiency measures in existing homes one of the key aspects is the need for adequate ventilation. If the health of occupants is ignored in future energy efficiency programmes, there is a risk that we fix one problem, energy consumption, and replace it with another, suboptimal indoor environment.

Given we spend over 90% of our time indoors, our homes need to positively contribute to our physical and mental health and wellbeing and not diminish it. The quality of our indoor environment has a direct effect on our health, comfort, wellbeing and productivity. It is therefore an important parameter to include when looking at energy efficiency.

Maximising the occupant's health and wellbeing must be placed at the centre of energy efficiency programmes and a holistic approach should be taken to include safety, space, ventilation, heating, noise, air quality and lighting.

Our [White Paper, 'Building our Future: Laying the Foundations for Healthy Homes and Buildings'](#) represents a significant body of work and makes a series of recommendations setting out what needs to be done to ensure that new and existing homes do not cause or exacerbate health problems when addressing energy efficiency. It is timely for the Environmental Audit Committee to investigate the impact and connection between outdoor and indoor air quality on the environment and our health wellbeing.

#### **1. Why should the Committee consider health and wellbeing as a priority when looking at energy efficiency in existing homes?**

The Environmental Audit Committee should consider health and wellbeing as a priority in existing homes because the financial and social cost of unhealthy homes and buildings is so significant. Our White Paper has shown that the effects of poor housing on the NHS in 2010, in terms of the first-year treatment costs of specific health hazards, was estimated to be at least £1.4bn per year in the poorest housing in England and to be £2.5bn per year when considering all housing throughout the entirety of the UK. In reality, the associated costs are estimated to add at least two-and-a-half times this number.

Poor quality homes and buildings also suffer from indoor air pollution which is a growing public health concern that can be exacerbated by energy efficiency measures that make homes more air-tight. Poor indoor air quality (IAQ) has been linked to allergy and asthma, lung cancer, chronic obstructive pulmonary disease, cardiovascular disease and dementia. It is reported to have an annual cost to the UK of over 204,000 healthy life years, with 45% of those lost to cardiovascular diseases, 23% to asthma and allergy, and 15% to lung cancer. The Royal College of Physicians (RCP) warned in 2016 that indoor air pollutants cause, at a minimum, thousands of deaths per year and are associated with healthcare costs in the order of 'tens of millions of pounds'. In 2015, Professor Hazim B. Awbi predicted that by 2050, without action to tackle indoor air pollution, there could be an 80% rise in those suffering asthma symptoms.

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'The Inside Story' report published by the Royal College of Physicians (RCP) and the Royal College of Paediatrics and Child Health (RCPCH) revealed that 3.6 million children are living in poor quality housing. It also found that poor indoor air quality could cause health problems in children, from birth and infancy, to pre-school, and then school age, including respiratory problems, eczema and reduced cognitive performance.

Legislators need to recognise the significance of health problems due to unhealthy homes and buildings and encourage smarter and more efficient design and development to deliver homes and buildings that are warm, dry, energy efficient, well ventilated, acoustically comfortable and well-lit.

In short, living, working or occupying unhealthy homes and buildings directly and negatively impacts human health – causing serious health effects, aggravating existing conditions and, in the extreme, leading to avoidable deaths. To avoid exacerbating this health burden further, any consideration of energy efficiency must be comprehensively assessed alongside the health and wellbeing of occupants. This has added importance, given that UK citizens spend around 90% of their time indoors and, in the current crisis, this figure is even greater.

## 2. What are the key issues that the Committee should consider regarding energy efficiency in existing homes?

It is well documented that there is still some way to go in terms of bringing existing homes up to the required energy efficiency standards. There is therefore an urgent requirement to address this issue, but this **must** be achieved alongside the essential consideration for the health of occupants.

By introducing energy efficient renovations in existing homes, the levels of natural ventilation will significantly reduce, thus impacting upon the quality of indoor air and the health of occupants. Therefore, the introduction of any energy efficiency measures should go hand-in-hand with the introduction of appropriate mechanical ventilation that can exchange 'toxic' indoor air with 'fresh' air and design measures that improve the overall comfort and wellbeing of all occupants.

A 2019 published study by Exeter University concluded that a unit increase in mean energy performance rating was associated with increases of around 0.5% in asthma and cardio-vascular disease emergency hospital admissions and 1% higher COPD (respiratory disease) admission rates. A 2015 study carried out by the same university studied the link between energy efficiency of dwellings (evaluated in terms of the Standard Assessment Procedure – SAP rating) and the prevalence of asthma. The study found that a unit increase in SAP rating was associated with a 2% increased risk of asthma symptoms.

In 2019, Allergy UK, a medical charity dedicated to helping adults and children with allergies, expressed its concern over how increased air tightness, as a result of improved energy efficiency, is not being met by equal improvements in ventilation and is therefore causing a rise in allergic reactions. In addition, 2020 guidelines developed by the National Institute for Health and Care Excellence (NICE) have demonstrated the importance of improved indoor air quality, recommending the adoption of a whole-building approach to heating and ventilation, and balancing indoor air quality with standards for energy use.

In January of this year, the Royal College of Physicians (RCP) and the Royal College of Paediatrics and Child Health (RCPCH) published 'The inside story: Health effects of indoor air quality on children and young people'. This specifically revealed that buildings were becoming more air-tight to improve energy efficiency and that improved insulation needed to be matched with adequate ventilation to

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prevent the build-up of pollutants in the home. The report advocated ventilation in homes, legislation to assess the safety of building materials, and building regulations that consider air quality, not just energy efficiency, to ensure the problem is remediated.

Thus, the introduction of energy efficiency measures has a cost not only to human health but also to the NHS and to tackle this key issue, the Government should make the renovation of the current housing stock an infrastructure priority and ensure that they develop plans for retrofitting homes that take a holistic approach to maximising health and wellbeing, alongside energy efficiency. This approach is endorsed by PAS 2035:2019 – a report sponsored by the Department for Business, Energy and Industrial Strategy (BEIS) – which provides a framework of new and existing standards on how to conduct effective energy retrofits of existing buildings and drives the 'whole house approach' to retrofit projects. This includes greater enforcement and quality control of home renovation standards with a shift towards measuring 'in use' performance standards, not just design performance, to ensure that improvements made to energy efficiency are effective for the long term and do not negatively impact on health and wellbeing.

It is of equal importance that the government adopts immediate measures for future renovations to address the unintended consequences associated with energy efficient and air-tight buildings whilst maximising the opportunity for effective and efficient design elements for health, such as ventilation, air quality, lighting and acoustics. All of which should be fundamental considerations within building regulations.

The need for a holistic approach to building design has been raised and supported not only by government departments but also by a large number of bodies including, the Residential Landlords Association, the UK Centre for Moisture in Buildings, the HEMAC (Health Effects of Modern Airtight Construction) Network, the Good Homes Alliance and the UK Green Building Council. In particular, emphasis has been placed on strategies that encompass energy efficiency as part of a wider initiative to promote healthy homes and buildings.

### 3. How effective is government policy in energy efficiency in existing homes?

Policies addressing the renovation of current housing stock are severely lacking. Given that **over 85% of all houses will still exist in 2050**, retrofit should be considered critical in achieving healthier homes. For example, modelling estimates presented by Velux have shown that renovating just 2% of homes each year has the potential to halve the number of unhealthy homes by 2050. Although the government has put in place contingency plans for new housing, nothing has been put forward to improve existing buildings. It is the APPG for Healthy Homes and Buildings' opinion that the building regulations on retrofit are currently not fit for purpose and need to be updated, including the introduction of a national league table of housing standards by Local Authorities to encourage the protection of people and the improvement of the existing housing stock, in terms of energy efficiency and health.

In particular, the government has to recognise the need to take new steps to address healthy homes in the Private Rented Sector (PRS). In areas across the UK, the PRS has contributed to a decline in standards of health, with many of those affected being classed as vulnerable groups. Whilst a Decent Homes Standard is in place, it has been reported that one third of all homes in the PRS fail to meet those standards, making healthy homes in the PRS a priority action for improving inhabitant's health and wellbeing.

It is therefore the opinion of the APPG for Healthy Homes and Buildings that;

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- Private Rental Sector landlords should be required to ensure their properties meet the Decent Homes Standard, a minimum level of energy efficiency and are not detrimental to the occupant's health and wellbeing.
- A new national registration system for the PRS in England should be introduced in order to improve standards, prevent landlords from providing poor quality housing and ensure remedial work is carried out within a specified timescale.
- Improved tools should be developed for the rental (and sale) of properties for assessing health and wellbeing in homes and buildings.

Despite wider national strategies needing to be implemented by Government, there is still a general consensus around the importance of empowering occupants to take action through intervention and incentivisation. Through the introduction of tax incentives, such as varying Council Tax and Stamp Duty based on building performance, the government could empower the public to invest in proven products, installed by qualified and competent persons, which improve the energy efficiency as well as the health and well-being of the home.

Whilst fiscal policy incentives exist in relation to the installation of improved energy efficiency measures (EEMs), such as cavity wall insulation and loft insulation, no such incentives exist for retrofitting improvements for health, such as improved ventilation, acoustics or light.

One further reason why Government policy relating to energy efficiency has often neglected health and wellbeing is that there is no Government Department which has taken proper responsibility for the issue. To assist the Government in making necessary policy changes it should allocate clear ownership and responsibility for healthy homes and buildings within Government.

SUBMISSION ENDS

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