

# REFORMING ENERGY PERFORMANCE CERTIFICATES FOR INDOOR AIR QUALITY

NOW IS THE TIME TO ENFORCE THE PRINCIPLE THAT  
ACCESS TO A HEALTHY HOME IS A BASIC HUMAN RIGHT



# CONTENTS

---

THE SCALE OF OUR UK HOUSE CONDITION AND HEALTH CRISIS	03
ENERGY PERFORMANCE CERTIFICATE (EPC) REFORM MUST INCORPORATE THE PRINCIPLE OF HEALTHY BUILDINGS	03
THE REAL HEALTH RISKS OF POOR INDOOR AIR QUALITY (IAQ)	04
BENEFITS BY NUMBERS	04
THE REGULATORY AND POLICY FRAMEWORK	05
FORWARD POLICY LINKS	06
HOW CAN AN EPC IAQ CHECKLIST WORK?	07

## DISCLAIMER

Published in Great Britain in 2024 by BEAMA Ltd, Rotherwick House, 3 Thomas More Street, London E1W 1YZ

Copyright © BEAMA Ltd 2024

*All rights reserved. You may copy, store, distribute, transmit, reproduce or otherwise make available this publication (or any part of it) in any form, or by any means (electronic, digital, optical, mechanical, photocopying, recording or otherwise), without the prior written permission of the publisher provided that at all times the publisher is credited on every page or excerpt or graphic or image and the publishers copyright is acknowledged. The information, pictures, drawings, tables and text herein are provided for guidance only and no responsibility is accepted for any errors or omissions however arising nor is any guarantee or warranty given by or to be assumed from the information contained in this publication. The information has been provided by members of the BEAMA Underfloor trade association and is considered best practice at the time of publication however laws and building practices change and you are advised to seek independent advice before relying upon the information contained herein. Pictures and case studies or referenced material used herein are the copyright of the company named in the case study or credited.*

# THE SCALE OF OUR UK HOUSE CONDITION AND HEALTH CRISIS

It is well documented and acknowledged at a political level that the UK has a health crisis related to poor housing provision. If we make a broad assumption that the situation in England is reflected across the UK, this crisis results in:

## EXCESSIVE

National Health Service (NHS) spending at around

# £1.4bn

per annum<sup>1</sup>.



This spend is focused on related disorders which are affecting the well-being of many UK citizens.

On the same assumption, in 2024,

# 10%



of people across the UK are living in poor quality housing conditions.

# ENERGY PERFORMANCE CERTIFICATE (EPC) REFORM MUST INCORPORATE THE PRINCIPLE OF HEALTHY BUILDINGS

The current EPC framework has evolved to focus on energy efficiency performance since the early 2000s, in pursuing the improvement of energy performance in buildings there is a clear disconnect with the need to ensure the building and occupants are healthy. This key aspect of a building's impact on occupancy is entirely missed across any policy mechanism linked to EPCs or, worse still, Government funding schemes. Even within the Government's preferred PAS 2030: 2024 framework, ventilation and indoor air quality is the poor relation to energy efficiency with no published evidence to suggest it is delivering change in living standards related to indoor air quality.

Why is it so critical to reform EPCs in order to bridge this policy and national crisis anomaly? The numbers are very clear; 465,000 EPCs were issued in England and Wales during the period January to March 2023 (at its peak in 2014, the figure was around 600,000)<sup>2</sup>. 410,000 of the EPCs lodged were for existing buildings which represents a high number of 'transactional opportunities' (sale or rental) to assess the building's IAQ strategy and potentially intervene or at least acknowledge and record a ventilation need.

48.6% of homes are below EPC C but this does not mean only these properties could have poor indoor air quality related to ventilation. This 'sub C' rating could be due to under-heating or excessive heat loss. The EPC rating is not in and of itself proof of good air quality. The remaining buildings that are C or above could have IAQ problems due to a failure to address ventilation needs during an energy efficiency retrofit or simply poor specification of the ventilation requirements as laid out in Approved Document F (ADF) of the Building Regulations. Potentially homes have been built a few decades ago with no means of any regulated ventilation in high risk wet rooms.

<sup>1</sup> BRE: Housing Condition Report 2023 (England Only)

<sup>2</sup> Gov.UK website statistics

# THE REAL HEALTH RISKS OF POOR INDOOR AIR QUALITY

According to the Building Research Establishment, the National Health Service (NHS) spends £1.4bn per annum on treating people affected by poor quality housing. This quality could relate to under-heating, over occupancy or general poor indoor air quality due to inadequate ventilation provision.



The same BRE report states that poor housing in England alone has a social cost of **£135bn** over 30 years.

It should be noted that as we enter 2025, there are **65,000 HOMES** with Category 1 damp and mould issues<sup>3</sup>



Across the UK, National Energy Action estimates more than 10,000 people die each year<sup>4</sup> due to living in a cold home with direct links to respiratory illness, cardio-vascular disease and mental disorders.

## BENEFITS BY NUMBERS

Having addressed the scale of the built environment problem, it is very sobering to review the health related numbers from a policy linked value for money point of view.

For example, it would cost **£9bn** to improve **2.4m** homes in England suffering from serious health and safety hazards with a payback for investment of 9 years relating to NHS budget benefits and reducing the current **£1.4bn** per annum spend.

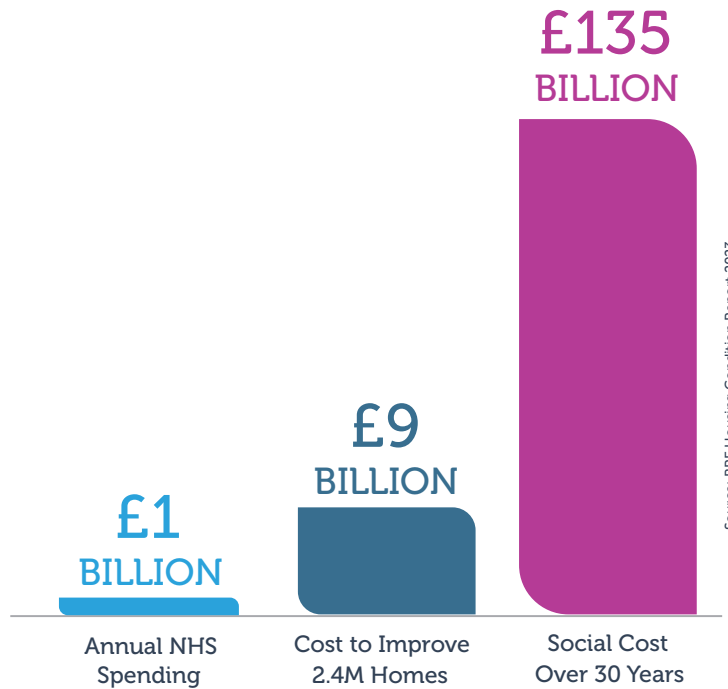
A smaller scale investment of **£250m** to tackle the **65,000** Category 1 issues would create **£4.8bn** of societal savings over the next 30 years and an NHS saving per year of over **£33m<sup>5</sup>**.

Households can save up to 26% of their heating costs<sup>6</sup> by using energy efficient ventilation systems. A direct link to the need to sustain building temperatures and achieve best value for money return for Government expenditure on retrofit measure installations.

<sup>3</sup> The Cost of Ignoring Poor Housing (BRE) 2023  
<sup>4</sup> National Energy Action statistics  
<sup>5</sup> The Cost of Ignoring Poor Housing (BRE) 2023  
<sup>6</sup> European Ventilation Industry Association (EVIA)

## UK Housing Health Financial Impact

Financial Overview 2024



Naturally, some of these improvements could be linked to grant funding (e.g. Warm Homes, Social Fund etc) but actually there needs to be a stronger link to sale or rental value (or even in the case of rental, a condition of lease) which brings a level of value to the investment to the customer. This is why the expansion of EPC remit into assessing indoor air quality is so important, because this crisis will not be erased through Government funding alone, although we note the Warm Homes Plan has similar budget ambition in terms of an overall cost of improving our housing stock. Without the link to EPCs, we are missing a very significant transaction based opportunity.

# THE REGULATORY AND POLICY FRAMEWORK

This is not just a UK problem to be addressed and has been rightly recognised in Europe where the Energy Performance in Buildings Directive has been amended as follows:

*'Member states will have to define requirements to ensure that good indoor air quality is fully part of their national regulatory framework'*

It could be argued that we already address this through ADF and requirements to consider IAQ as part of a retrofit programme but this does not go anywhere near enough to the level of intervention now required to put good IAQ on the map. We are missing out on the key interventions linked to those 'transactional moments' when a home is sold or rented.

Given that

**14%**

of occupied dwellings fail to meet the decent homes standard<sup>7</sup> and

**4%**

of occupied dwellings have problems with mould and damp, this is now an increasing concern which must be addressed in a practical way.

It is also worth noting that

**23%**

of homes classed as non-decent are in the private rented sector and the owner occupier group sits at

**13%**<sup>8</sup>

The ADF legal text states:

*'F1. (1) There shall be adequate means of ventilation provided for people in a building'*

This legal requirement is completely sensible but at what point are we assessing it is being achieved without some link to a transactional opportunity? The most effective form of ensuring the basic human right for good Indoor Air Quality is achieved is to link it to sale conveyancing and permissible rental agreements.

We welcome the Government's ambition to address private rented Minimum Energy Efficiency Standards and invest in Warm Homes, but this must be linked to some indicator of Indoor Air Quality to ensure the building performance as it should in the round. It should be noted that 'controlled ventilation' – i.e. not window opening – reduces thermal loss which is why it is critical to get it right or else the Government investment reduces in value for money in a real sense.



<sup>7</sup> English House Condition Survey (2022)

<sup>8</sup> Healthy Homes and Buildings All Party Parliamentary Group Manifesto (2023)

# FORWARD POLICY LINKS

## Warm Homes Plan

The UK Government has laid down ambitious plans to invest £3.4bn in the Warm Homes Plan in the coming 3 years and £9bn overall. This will be delivered in the form of:

- Grants for low income households
- Finance for 'able to pay' sector
- Local Authority targeted social funding

## Minimum Energy Efficiency Standards (MEES) for the Private Rented Sector

The UK Government has also committed to raise the bar for MEES in the private rented sector to ensure a minimum EPC rating of C is achieved by 2030 by:

- Linking to the Warm Homes Plan through the Social Decarbonisation Fund allocation for private rented dwellings
- Addressing the fact that 23% of the worst housing stock is in this sector

These policy initiatives have specific intent with regards our energy transition, however it is a very real prospect that their effectiveness will be counter-balanced in public spending through either creating new and additional IAQ issues through retro-fit installations, or not addressing existing IAQ issues because they have not been assessed or reported. From an impact assessment perspective this would be both a wasted transactional opportunity and a mis-placed allocation of ever tightening Government spend towards creating unintended consequences for public health.

All of the above are in some way transactional, offering greater opportunities for EPC lodgements, perhaps leading us back to levels experienced in 2014. In summary, their reach goes beyond a dwelling sale or rental process.

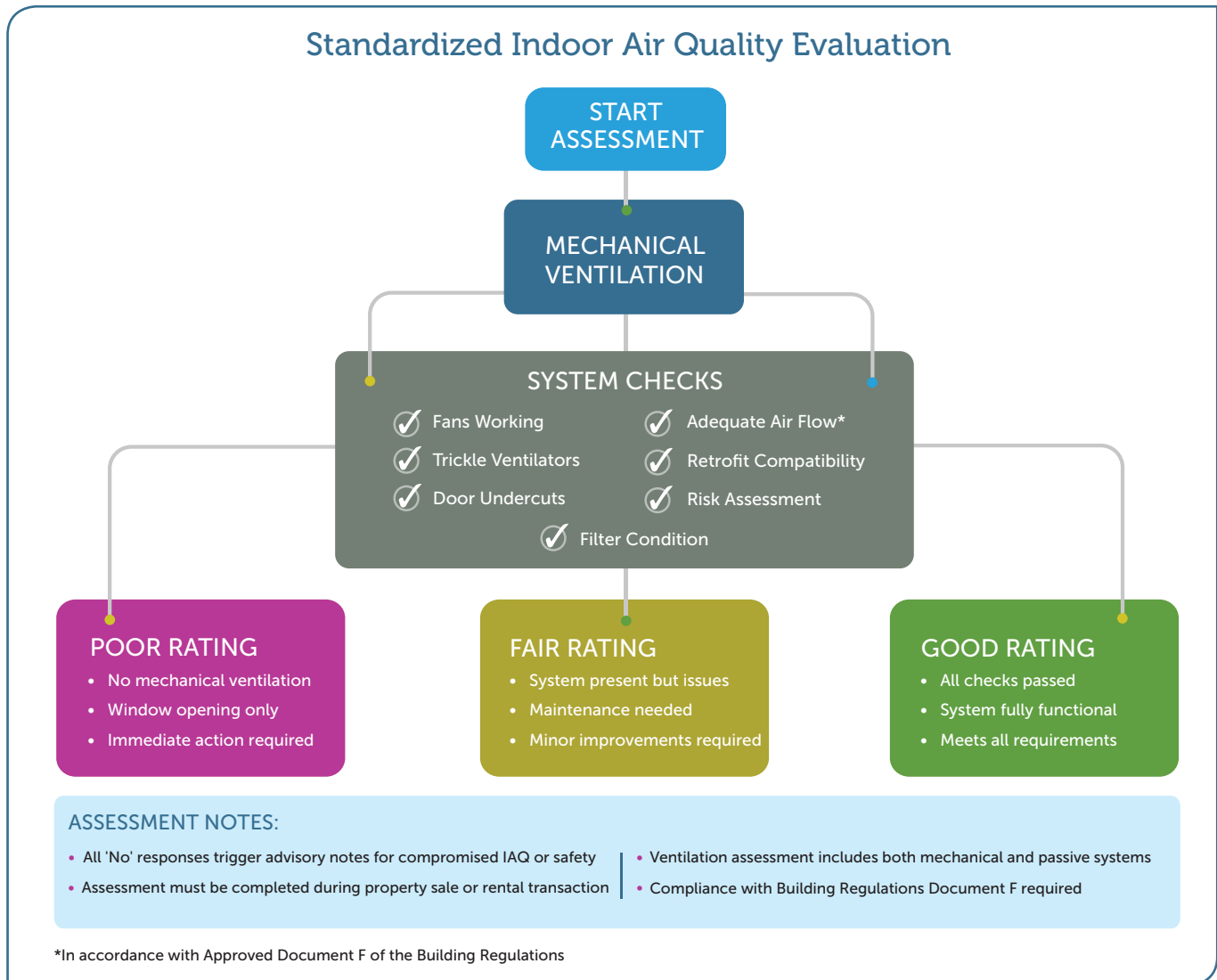
**It is BEAMA's view that if the UK Government does not address the EPC link to the above programmes and introduce relevant EPC reforms, it will miss a critically important reportable metric for improving building standards, therefore diminishing the stated aims of supporting policy impact assessments.**



# HOW CAN AN INDOOR AIR QUALITY ASSESSMENT WORK?

Expanding the EPC framework to incorporate indoor air quality assessments and reported outcomes does not need to be onerous. It will require a very simple yet informative checklist accompanied by minimal training and data capture with the Home Energy Model EPC wrapper.

As a process flow, we can see this as a guide for assessors:



We would advise utilising the current ventilation system listing within the rdSAP10 model to promote a 'Better' category using systems 2-7 which provide controlled mechanical (forced) ventilation.

## TACKLING HOME HEALTH MUST BE A NATIONAL PRIORITY

*As we enter a welcomed period of policy reform, the time is absolutely right to address this housing condition gap and complement forthcoming policy introduction. The stakes are high and we must stem the unnecessary public spend in tackling home health issues. With respect to new retrofit programmes, we will not be able to present an accurate value for public money case in policy impact assessments and very essential change to the quality of life of many UK citizens. Notwithstanding the thrust of this recommendation it should also not be forgotten that there are additional problems with EPCs and the underlying Home Energy Model relating to modelling flexible energy consumption and associated heat electrification technologies. These will be the subject of additional papers from BEAMA.*



Rotherwick House  
3 Thomas More Street  
London E1W 1YZ

[www.beama.org.uk](http://www.beama.org.uk)