



TRUEWOOL

Natural Smart Fibre

# Wool Insulation Wales Limited

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The Role of Wool in the Built Environment

# Net Zero 2050

- The 'net zero target' refers to a government commitment to ensure the UK reduces its greenhouse gas emissions by 100% from 1990 levels by 2050.
- Made legally binding under an act of Parliament in 2019.
- To get there, the UK's Sixth Carbon Budget has set a goal for the UK to achieve a 78% reduction in greenhouse gas emissions by 2035 compared to 1990 levels – this will put the UK on track to achieve net-zero emissions by 2050.

# The UK's GHG emissions

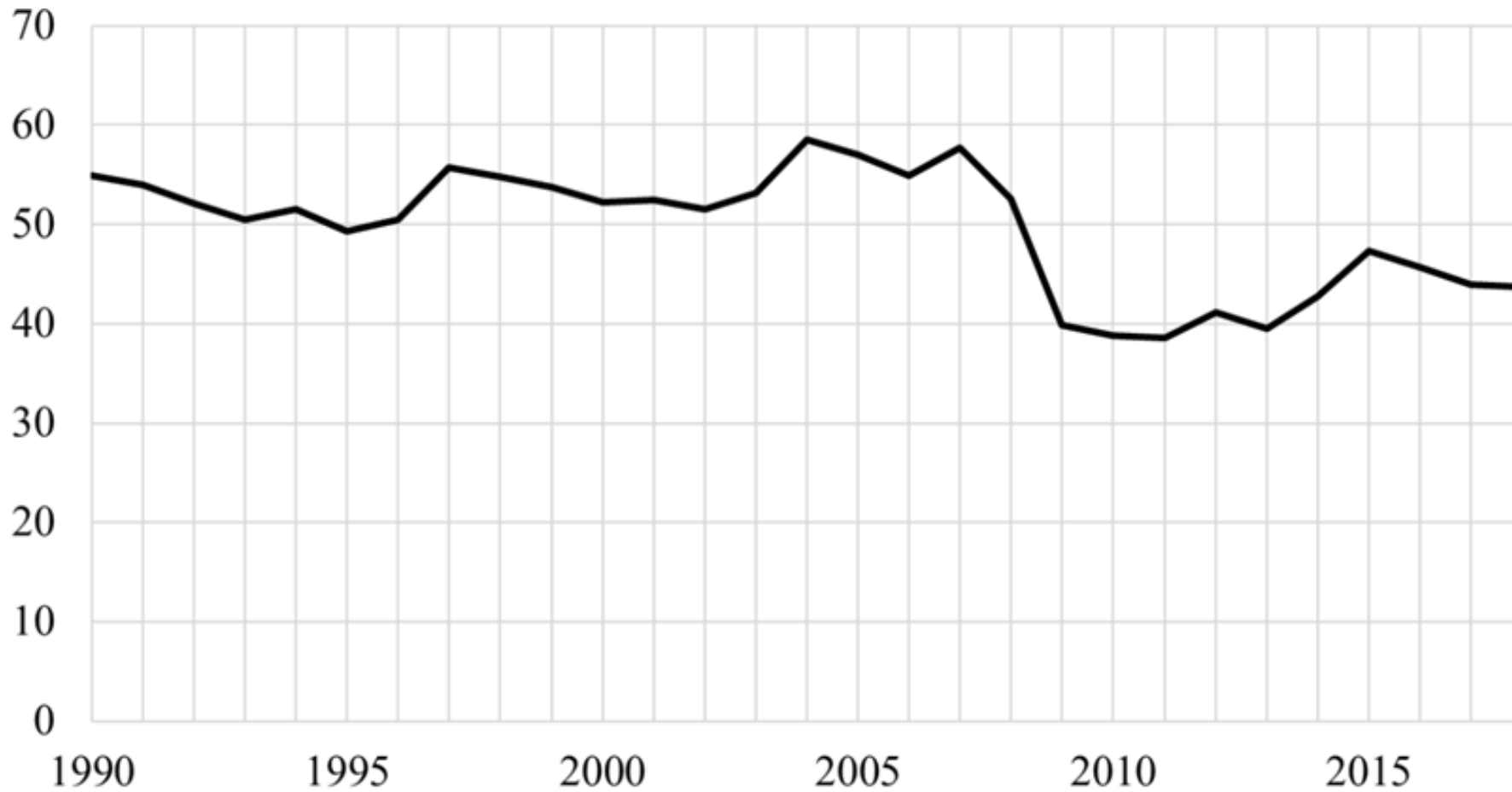
Built Environment  
30%

- Other Emissions  
70%

Embodied Carbon  
33%

- Operational  
Carbon 67%

# Embodied Carbon Emissions in UK Buildings



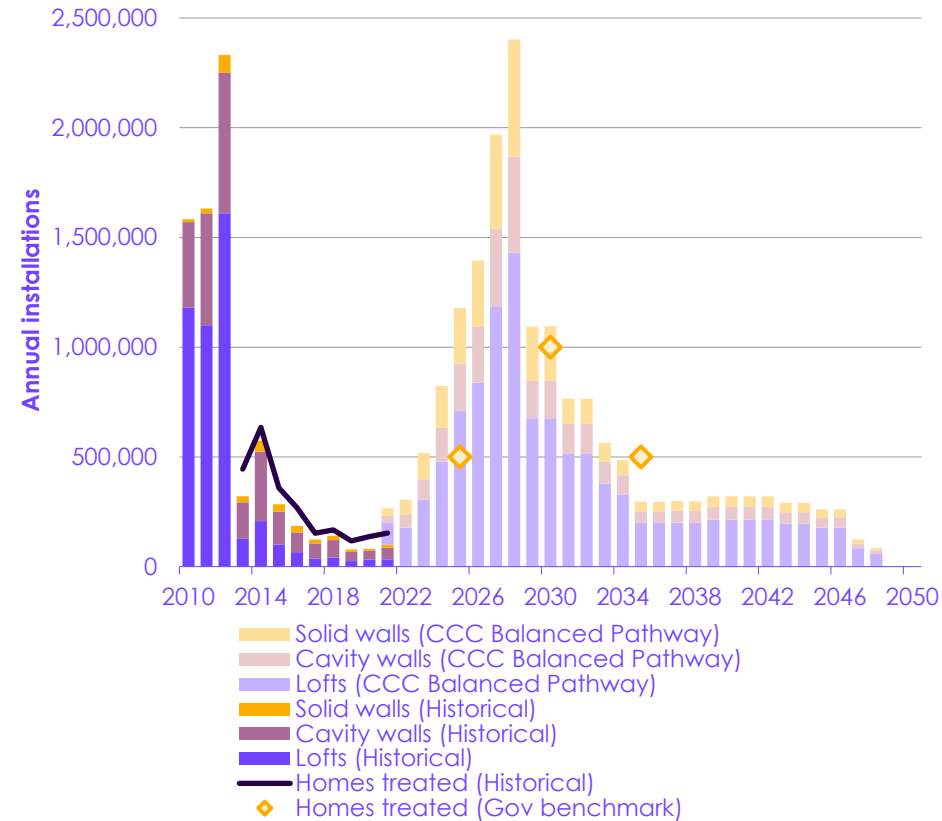
# The UK's old and leaky housing stock

	Percentage of Housing Stock Built prior to 1946
UK	38%
Germany	24%
Spain	11%

	Home heat loss after 5 hours
UK	3°
Italy	1.5°
Germany	1°

Going  
backwards  
not  
forwards....

Figure 4.6 Home energy efficiency installations

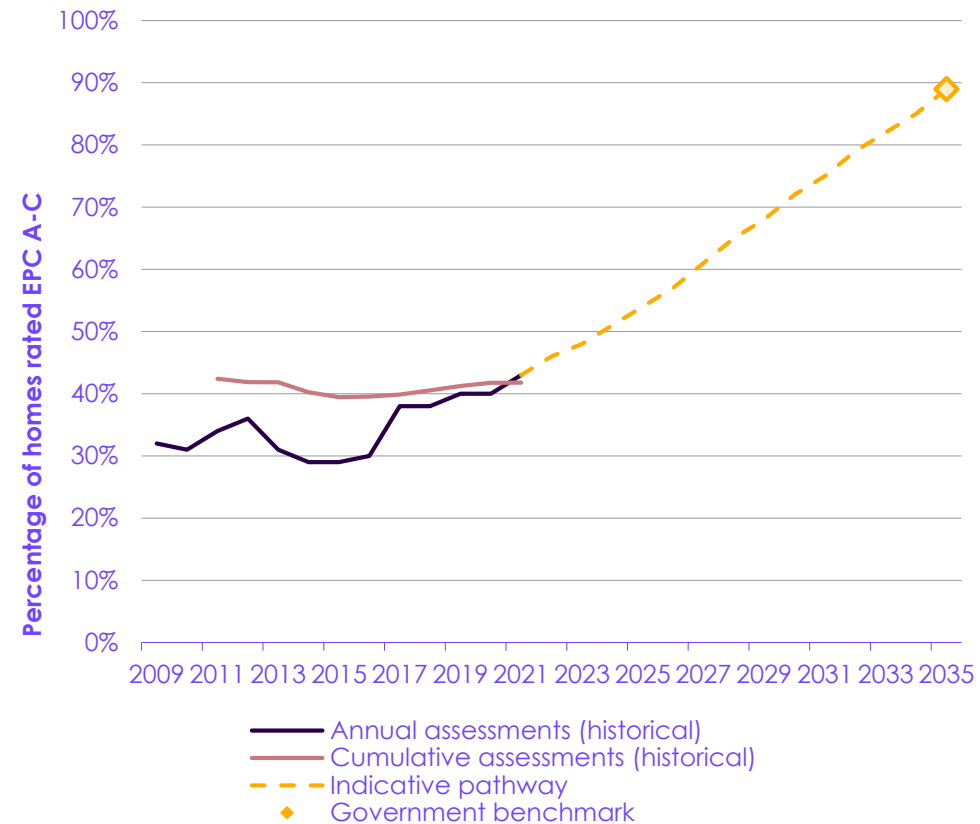


Source: BEIS (2022) Household Energy Efficiency Statistics; BEIS (2021) National Energy Efficiency Data-Framework (NEED); CCC (2020) Sixth Carbon Budget; BEIS (2021) Net Zero Strategy: charts and tables (updated 5 April 2022). Notes: Historical data includes Government data on insulation measures delivered through the Green Deal, ECO and Local Authority Delivery scheme to capture solid wall, cavity wall and loft insulations. This means not all insulation measures are captured. For the LAD scheme data we only capture insulation measures from Phase 1 as data on Phase 2 specific insulation measures is not yet published. Data on homes treated is not directly comparable with the sum total of number of loft, cavity wall and solid wall insulations, as a single house might have multiple measures, or measures other than loft, cavity and solid wall insulations.



60% of homes  
do not reach  
EPC C – the  
target by 2035

Figure 4.7 EPC ratings in homes



Source: Analysis by Eunomia for the CCC based on ONS, Energy Performance Certificate statistics for new and existing flats and houses and Government targets in the Heat and Buildings Strategy.  
Notes: The annual historical pathway does not represent a snapshot of the state of the stock at any time – rather the percentage of EPCs lodged on the register during the time period in question. The cumulative historical pathway is based on ONS data for financial years up to March 2021. The Government target and indicative pathway to the target were produced based on Eunomia's assumption that 89% of homes in the stock can reach EPC C.

# Regulatory changes

- EPC
- Green mortgages
- Part Z proposals aim to achieve zero-carbon standards for new builds. More than 200 statements of support



# Wool: The Smart Technical Fibre

A superb thermal insulator helping to

- minimise heat loss and
- maximise energy efficiency
- manage heat gain to prevent over-heating and
- regulate heat flux for high levels of comfort

A key ingredient to manage damp, humidity and mould

- Exterior is hydrophobic – it does not feel wet.
- Interior is hygroscopic – it can absorb up to one third of its bulk weight in moisture without losing its thermal qualities
- Fully breathable – can manage the conditions of both old and new buildings

## Wool qualities: Carbon footprint and circularity

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30 million sheep are sheared in the UK every year making it a local and renewable raw material

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It is a by-product of the meat industry

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Wool is a carbon store. It is around 50% carbon

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Many UK sheep graze in upland areas unsuitable for crops and contribute to bio-diversity

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At end of life pure wool insulation can be composted returning nutrients to the soil

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A material of the Circular Economy.

# Wool Innovation

Beyond roll and batt insulation

Wool composites for panels –offsite construction

Cavity walls

Processing innovations

Wool composites for other construction materials

Focus of academic research



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Thank you

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