

Homes of the future are needed today

Decarbonising and adapting the UK's housing stock is critical for meeting legally-binding emissions targets by 2050 and preparing for the impacts of climate change. The UK Government, householders and developers need to implement policies and measures now that ensure new and existing homes are fit for the future.

What does a low-carbon, sustainable home look like?

Current technology, and measures aimed at preparing for the impacts of climate change, can help new and existing homes to become low-carbon and ultra-efficient as well as adapted to flooding, heat and water scarcity.

Existing homes

Improving existing homes can help existing house-holders meet the challenges of climate change

- 1 **Insulation**
in lofts and walls (cavity and solid)
- 2 **Double or triple glazing with shading**
(e.g. tinted window film, blinds, curtains and trees outside)
- 3 **Low-carbon heating**
with heat pumps or connections to district heat networks
- 4 **Draught proofing**
of floors, windows and doors
- 5 **Highly energy-efficient appliances**
(e.g. A++ and A+++ rating)
- 6 **Highly water-efficient devices**
with low-flow showers and taps, insulated tanks and hot water thermostats
- 7 **Green space (e.g. gardens and trees)**
to help reduce the risks and impacts of flooding and overheating
- 8 **Flood resilience and resistance**
with removable air brick covers, relocated appliances (e.g. installing washing machines upstairs), treated wooden floors



24%
REDUCTION
NEEDED
IN DIRECT CO₂
FROM HOMES
BY 2030, FROM
1990 LEVELS

15%
REDUCTION
REQUIRED IN ENERGY
USED FOR HEATING
EXISTING BUILDINGS
BY 2030 THROUGH
EFFICIENCY
IMPROVEMENTS¹

New build homes

New build homes can and should meet even more ambitious standards in some areas

- A **High levels of airtightness**
- B **More fresh air**
with mechanical ventilation and heat recovery, and passive cooling measures such as openable windows
- C **Triple glazed windows and external shading**
especially on south and west faces
- D **Low-carbon heating** and no new homes on the gas grid by 2025 at the latest
- E **Water management and cooling**
more ambitious water efficiency standards, green roofs and reflective walls
- F **Flood resilience and resistance**
e.g. raised electricals, concrete floors and greening your garden
- G **Construction and site planning**
timber frames, sustainable transport options (such as cycling)

What householders can do today

There are number of practical, easy and cheap steps that householders can take now to adapt their homes, and reduce their bills and carbon emissions:

1 Improve home energy, heating and water usage and efficiency

- Install low-energy lighting, hot water tank insulation, low-flow shower heads and draught-proofing
- Turn off the lights/other electricals when not being used
- Turn taps off when brushing teeth, have shorter showers, check pipes for leaks and water gardens only as needed
- Install water and smart energy meters to manage water and energy use and help identify water leaks

2 Is the heating system working correctly?

- Check your boiler annually and ensure your heating system is operating at no more than 55°C
- Install heating controls like timers and room thermostats
- Turn your thermostat temperature down to 19°C

3 Reduce the risk of overheating in summer

- Opt for thick curtains or blinds (close them during the day), plant trees to provide shade and open windows at night
- Use fans for bedrooms and living spaces (as long as temperatures are below 36°C)

4 Flooding

- If you're in a flood risk area sign up to flood warnings and devise your own household plan to prepare for possible floods

Our recommendations to Government

The Government needs to take action in five areas NOW to improve the UK's housing stock and help achieve long-term emissions reduction targets. This includes:

- 1 Enforcing standards, ensuring compliance with those standards and closing the 'performance gap'
- 2 Delivering a step-change in construction skills
- 3 Retrofitting existing homes so they are low-carbon, energy efficient and resilient to a changing climate
- 4 Ensuring new homes are low-carbon, ultra energy efficient and climate resilient, with sustainable transport options
- 5 Addressing urgent funding needs

Notes

¹ A 15% reduction relative to 2015

Read our new report! Find it online here:

www.theccc.org.uk/publications

