Briefing

Climate adaptation priorities: five tests for the spending review

April 2025

Summary

Climate change is increasingly apparent in the UK, with clear negative impacts on infrastructure, health and the economy. As the Climate Change Committee (CCC) describes in its seventh carbon budget advice, "...heatwaves and floods have become regular fixtures instead of 'once in a lifetime' events for many".[1]

The CCC notes the lack of a system level resilience standard for the UK's energy system. This can lead to power outages for thousands of households, as proven during recent storms.[2]

Extreme heat is a significant health threat, with an average of around 2,000 heat related deaths each year. In 2022, 11 million labour hours were lost due to extreme heat, undermining the government's growth mission.[3]

As temperatures rise, threats to the economy and our health will increase. The Health Security Agency predicts that without suitable adaptation measures, annual heat related deaths could reach almost 11,000 by 2050.[4]

Experts have criticised the government's national adaptation programme (NAP) for lacking the ambition needed to prepare the UK for rising climate impacts.[5] Significant political moments, like the June 2025 comprehensive spending review, should be used by the government to signal its commitment to improving climate adaptation and resilience.

This briefing outlines how the government can tackle two of the biggest adaptation challenges: flooding and overheating in homes. Meeting the following five tests would indicate the government is serious about changing the narrative on adaptation and resilience:

- As a minimum, guaranteeing the same rate of flooding funding in England, currently £2.65 billion from 2024-6 (£1.325 billion per year), over the course of the whole spending review period.[6]
- Reviewing the flooding spending formula with a view to increasing green infrastructure rollout and natural flood management, given the increased flood risk faced in the UK, as highlighted by the Environment Agency (EA).
- Introducing a low or no interest home adaptation loan to finance the retrofit of passive cooling measures for households vulnerable to overheating.
- Integrating heat resilience and cooling measures into the Warm Homes Plan and delivering the additional commitments highlighted in the Labour manifesto in full, bringing total funding to £13.2 billion over the parliament.
- Supporting a UK wide green taxonomy to channel private investment in adaptation and resilience measures. The investment framework identified by Defra's Land Nature and Adapted Systems (LNAS) advisory group should be adopted to define distinctive investment opportunities in adaptation.

The fiscal situation

The government faces a tight fiscal envelope in the spending review. While not an explicit government mission, adaptation to climate change is a priority that underpins all five of the government's missions.[7] Ignoring climate change will not only increase the risks individual households and communities face but it will also threaten the government's growth targets.

The Office for Budgetary Responsibility (OBR) shows that higher levels of warming (ie below three degrees) would increase the government's debt to GDP ratio by ten per cent, compared to a lower warming scenario (below two degrees). It says that the impacts of climate change, both direct (additional climate damage) and indirect (lost productivity and employment), will generate additional costs.[8]

Effective adaptation and resilience which reduce the direct and indirect impacts would help to reduce the need for spending in the long term. It is an example of an 'invest to save' strategy.

Funding decisions must be considered with a cross government approach. Climate impacts are experienced throughout society; in homes, the natural environment, across transport infrastructure and the NHS, each of which is the responsibility of a different government department.

A UK green taxonomy, directing private investment, is a first step the government should take to indicate the need for greater action on adaptation and resilience. The government should indicate its support for the taxonomy and adopt the framework developed by Defra's Land Nature and Adapted Systems (LNAS) advisory group to signal adaptation investment.

Reducing flood risk

Flooding is increasingly a significant and pressing risk for many homes and businesses across the UK. During the past thirty years, sea levels have risen by 16.5 cm. The period 2011-20 was nine per cent wetter than 1961-90. [9] Altogether, 6.3 million homes in England are at risk of flooding, an increase of almost a million homes in just six years.[10] This risk is present despite record investment in flood defences in recent years. Cutting funding in flood defence would leave residents vulnerable. Reassessment of risk is needed to ensure greater protection for households and businesses over the long term.

- The government should extend the same rate of flooding spending across England for the rest of the spending review period. Current funding is only guaranteed to 2026, at just over £1.3 billion per year. Reduced protection would leave at risk communities vulnerable across the country.
- The government should review the flooding spending formula to assess whether the pace of investment and the balance between engineered flooding solutions and natural or 'green' infrastructure for flood management is right. Improved 2024 modelling from the Environment Agency shows there is a 43 per cent increase in the likelihood of surface water flooding compared to its 2018 assessment.[11] Recent research for the Wildlife Trusts shows that, for every £1 invested in natural flood

management schemes, £10 worth of benefits are returned over thirty years.[12]

- The government should build on the £25 million Natural Flood Management Programme, committing funding to at least the end of the spending review period.
- The £11 million raised in the Water Restoration Fund should be ringfenced for green infrastructure, such as tree planting and nature-based solutions.[13]
- In Ofwat's 2024 price review, £3 billion in water industry investment has been committed for nature-based solutions and green schemes, this should be increased in line with the higher risk identified by the Environment Agency.[14]
- The government should implement schedule 3 of the Flood and Water Management Act 2010, supported by current ministers when they were in opposition, as it is long overdue. Doing so would provide a legal foundation to rollout sustainable urban drainage schemes (SUDs) and give local authorities responsibility for monitoring delivery and maintenance, in the role of sustainable drainage approval body (SAB). SUDs have wide ranging benefits, such as protecting properties from flood damage and reducing insurance costs, as well as benefiting human health, nature and wellbeing by increasing urban green infrastructure.
- The National Wealth Fund (NWF) should be given a remit to invest in adaptation and resilience, with a particular focus on nature-based solutions. This can be done by embedding adaptation into its statutory objectives, alongside its priority to invest in the net zero transition with clear direction from HM Treasury's statement on strategic priorities.
- The government should urgently clarify future farming funding and support the Environmental Land Management schemes (ELMs). As a priority, it should reopen the Higher Tier Countryside Stewardship and Landscape Recovery support schemes. Analysis by the RSPB, The Wildlife Trusts and the National Trust suggests the farming budget should be £3.1 billion per year in England.[15]

Adapting homes

Homes are where impacts of the climate crisis are felt. Overheating is a contributing factor in around 2,000 deaths each year but, during significant heatwaves this can climb substantially. In the 2022 heatwaves, 3,271 people died as a result.[16] As average temperatures increase, more varied and extreme weather is likely, putting additional pressure on homes and infrastructure to cope with those changes and protect residents.

Experience of heat intersects with inequalities in society. Shading from tree lined streets and parks provides an important community adaptation benefit, but fewer than half of households with annual incomes under £15,000 live close to a green space compared to 70 per cent of those with household incomes over £35,000.[17] Poor quality infrastructure and housing exacerbate the threat of overheating. The Resolution Foundation has found that the poorest fifth of English households are three times more likely to overheat than the richest fifth.[18]

While Part O of the building regulations for new homes includes provision to account for thermal comfort, it is estimated that around 80 per cent of the homes that will exist in 2050 have already been built.[19] A substantial retrofit programme is needed to prepare these homes for future temperature extremes.

All retrofits should adhere to the 'cooling hierarchy'.[20] This prioritises reducing heat gain through passive cooling measures first, focusing on the design of the building before adopting energy intensive cooling technology, like air conditioning. Insulation reduces overheating by slowing temperature changes from outside extremes, but it must be paired with good ventilation to ensure building users can regulate heat in their homes. Shading devices are important, as is the use of reflective materials on roofs and walls to reduce thermal gain.

- The government should take advantage of its reclassification of national debt under the Public Sector Net Financial Liabilities (PSNFL) to provide a 'home adaptation loan' at low or no interest, targeted at households at risk of overheating. Financing should be focused on cost effective passive cooling, such as shutters on windows, awnings and green and white roofs. It should also consider how to harness the potential of the mortgage market, with an appropriate mechanism that encourages

owner-occupiers to upgrade homes to EPC C or above when buying and selling homes.

- Active cooling measures may be necessary. The government should extend its boiler upgrade scheme to air to air heat pumps which can provide both heating and cooling, combining home heating decarbonisation with improved thermal comfort. It should amend Part L of the building regulations to encourage the use of ceiling fans to improve airflow.
- Urban areas with low income residents are most exposed to the impacts of the urban heat island effect. The government should consider reopening the Local Authorities Treescapes Fund and the Urban Tree Challenge Fund (UTCF), or new funding, allowing local authorities and businesses to increase tree coverage in cities, to provide community cooling and support urban drainage.
- In the autumn statement, the government committed an initial £3.4 billion towards heat decarbonisation and energy efficiency up to 2027-28. This was a reduction compared to the previous government's commitment. The spending review should deliver in full on Labour's pledged £13.2 billion for the Warm Homes Plan over the course of the parliament.
- Alongside funding, the government should set out a clear vision and strategy to insulate the UK's housing stock, across the full spectrum of ownership. Of the nearly 27 million homes in England and Wales with an Energy Performance Certificate (EPC), over 15 million (57 per cent) are rated at D or below.[21] In the government's current Renters (Reform) Bill, there are no safeguards in place to prevent the cost of meeting minimum energy efficiency standards (MEES), such as increasing a property's EPC rating to C by 2030, from being passed onto tenants through increased rent. This must be rectified. The government should aim for nearly every home in the country to be at least at EPC C by 2035.[22]
- The government should review the scope of VAT exemptions for retrofit activities to ensure they apply to all retrofit materials which demonstrate a measurable improvement in energy efficiency or heat resilience.
- The government should introduce a legal maximum heat threshold on social and private rented properties, as is currently the case for minimum

temperatures which ensure homes "provide a reasonable degree of comfort".

For more information, contact:
Johann Beckford, senior policy adviser, Green Alliance
jbeckford@green-alliance.org.uk

Endnotes

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temperatures will have an outsized impact on low-income households and low-paid workers

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