

Written evidence submitted by Green Alliance

EAC call for evidence: Heat resilience and sustainable cooling

About Green Alliance

Green Alliance is an independent think tank and charity focused on ambitious leadership for the environment. Our work crosses climate, the natural environment and resource use. Since 1979, we have been working with the most influential leaders in business, NGOs and politics to accelerate political action and create transformative policy for a green and prosperous UK.

Green Alliance response to the EAC's call for evidence

The UK's approach to heat resilience and cooling (questions 4 and 9)

- NAP3 lays out what the risks of climate change poses to the UK for infrastructure, transport, the natural environment and, to a lesser extent, buildings. It does not, however, give extensive detail about how heating in homes can or should be addressed, or how the public should be engaged with regards to cooling.
- Updates to the 2010 Building Regulations includes guidance on 'staying cool in hot weather' for new homes, however it does not address new cooling measures which could be introduced into already existing buildings. Nor does the Future Homes Standard adequately lay out what measures might be installed in homes, how they are maintained, or how communications with the homeowners or tenants might function. Around [80% of homes in use in 2050](#) are expected to have already been built so the need to address cooling measure in existing buildings is of vital importance.
- The Heat and Buildings Strategy (HBS) mentions the need for home cooling a number of times but does not put forward specific policy solutions to address the roll out of measures needed in homes.
- Neither NAP3 or the HBS provide adequate mapping of high-risk areas, groups, or type of housing for local governments to use.

A heat resilience strategy (questions 3, 10 and 11)

- Although there have been efforts to map and identify climate risks in the UK, there have been few corresponding policies to address these risks in a strategic manner.
- The unorganised nature with which heat resilience and cooling measures are addressed in the UK has led to a piecemeal approach, distributing responsibility across several governmental departments and other bodies, such as local authorities and the Environment Agency.
- There is currently inadequate knowledge of the impacts that overheating is having on the most vulnerable and suitable ways to mitigate these challenges. Sufficient mapping needs to be done to improve understanding of these challenges. This must be followed by suitable communications targeting these groups and appropriate schemes and funding to rollout adaptation measures.
- The government should deliver a heat resilience strategy, which ties all these elements together and provides clear governance structures. A heat resilience strategy should address:
 - Which measures are appropriate in the home and in local communities
 - Routes and vehicles for roll out of measures
 - Who pays for heat resilience measures and which groups are prioritised
 - Measures aimed at the existing building stock as well as new homes
 - Types of measures to be considered in each domicile
 - Appropriate education on heat challenges, their health impacts and how to implement heat resilience measures and communications during extreme heat events
 - Assessment of innovative solutions from other countries that could be adopted in the UK

Sustainable cooling measures (questions 2 and 7)

- Reversible heat pumps will be an effective solution in some spaces but may not be suitable for all. A primary advantage of reversible heat pumps is that they reduce the need for further technological heating and cooling interventions. Heat pumps are also highly efficient, so can reach thermal comfort with relatively little energy use.
- Reversible heat pumps are, however, costly to instal and therefore may not be suitable for some consumers without additional financial support. They will also increase demand on the grid, although their use could peak in the middle of the day if users do not modify their behaviours and continue to expect 'on demand' temperature changes. Where they are installed, there must be appropriate insulation measures to keep the space cool and use energy efficiently, as well as ventilation.
- In some areas, where reversible heat pumps may be less suitable or the costs prohibitive, smaller scale air conditioning (AC) units may be needed.
- To reduce the need for costly technological rollout of reversible heat pumps or AC units, local authorities and relevant private businesses (e.g., utility companies) should work together to improve low-cost cooling solutions by retrofitting passive cooling measures into homes, including appropriate shading, improving ventilation and introducing ceiling fans.
- Other cooling solutions such as home insulation and green infrastructure should be priorities for building adaptation, and local authorities should be responsible for creating designated community cool spaces for local residents.

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