House of Lords Select Committee on National Policy for the Built Environment – Call for Evidence

Written Submission from the Committee on Climate Change – 6th October 2015

The Committee on Climate Change was established under the 2008 Climate Change Act. We advise the Government on carbon budgets and report to Parliament annually on progress against budgets and the 2050 target. Our Adaptation Sub-Committee reports to Parliament every two years with an independent assessment of the progress being made with preparing the UK for a changing climate.

Changes to the built environment are needed in order to achieve carbon budgets, while the impacts of climate change on people and communities will to a significant degree be determined by how well the built environment is adapted to the future climate. The CCC and ASC's first joint progress report to Parliament in June 2015 found that policies to reduce emissions from buildings need strengthening. We set out that:

- **GHG emissions from buildings** - 17% of the UK's direct greenhouse gas emissions are from buildings, as well as indirectly accounting for two-thirds of power sector emissions.
- **Energy efficiency** - improvements (e.g. insulation) to existing homes contributes both to reducing emissions and alleviating fuel poverty. Recent policy changes have resulted in a slow-down in the rate of installation of insulation measures. The Government needs to address this and set out the future of energy efficiency policy, ensuring that both carbon budgets and fuel poverty targets are met. This may include a greater role for local authority-led delivery, based on positive experience from Scotland and Wales.
- **Decarbonising heating** - is one of the biggest challenges for carbon budgets. Currently, low-carbon heat accounts for less than 2% of heat demand. The Government needs to develop an action plan to address this shortfall, also ensuring a better integration with energy efficiency. Such an action plan should allow various options to be pursued (e.g. individual heat pumps and district heating infrastructure).

At the same time, many aspects of England's built environment are ill-prepared for a changing climate. We highlighted in particular:

- **River and coastal flood risk** – many towns and cities are located on the floodplain, with over 240,000 properties in England currently located in areas of high flood risk (with a 1-in-30 annual chance of flooding or greater). These numbers are projected to increase in the future with sea level rise and projected increases in peak river flows. Furthermore, 1,500 new homes on average are built each year in areas that are currently at high flood risk. A further 3,100 homes are built per year within the 1-in-100 year floodplain, many of which will be in the high risk category in time. Existing flood risk management policy focuses on building bigger defences where possible and affordable but fails to address the increasing numbers of homes and other properties elsewhere that are falling in to the high flood risk category.
- **Surface water flooding** – progress has been slow with managing this risk in urban areas, which is projected to increase in the future due to heavier rainfall events combined with the continued paving over of front gardens, in-fill development and an ageing public sewer network that is already near to capacity. Many of the recommendations of the

Pitt Review into the 2007 floods have not been implemented, particularly on the use of sustainable drainage systems in new developments. Local flood risk management strategies, a requirement under the Flood and Water Management Act 2010, have yet to be finalised by the majority of local authorities in England.

- **Overheating** – up to 2,000 premature deaths per year can be attributed to hot weather, and this could increase to 7,000 per year by the 2050s. However, there are no policies for tackling the risk of overheating in the built environment. A number of drivers are increasing vulnerability, including an ageing population, the condition of existing buildings such as hospitals and care homes, the loss of urban greenspace and the design of new buildings. Building Regulations do not currently require consideration of heat stress or the fitting of passive cooling measures in new development.
- **Water scarcity** –the risk of significant supply-demand deficits during periods of drought is projected to increase due to the combined effects of climate change and population growth. This could affect public water supply. Although some progress is being made, with per capita consumption gradually falling, further steps to increase water efficiency in buildings are required.

Most of England's existing homes and other buildings will still be is use in 2050. Extensive retrofitting will be required to make the building stock more energy efficient, suitable for low-carbon heat sources and resilient to even a 2^0C rise in global mean temperature. This is not, however, currently happening at any scale. Coordinated and targeted actions that support both emission reductions and adaptation will be more efficient than considering each issue in isolation.

As well as the significant challenge of retrofitting the existing building stock, consideration will also be needed of longer term and more fundamental changes to the built environment in relation to opportunities this provides for both reducing emissions and for adaptation. Planning and transport within existing urban areas, as well as the location and design of new centres of population and transport and infrastructure links between them, will become increasingly critical. Climate change is likely to become an increasingly important driver in the future, affecting where centres of population will and will not be viable. Nowhere is this more the case than on the coast, where rising sea levels will have significant implications for many major conurbations over the rest of this century and beyond, including the capitals of all four UK countries. The ASC is currently undertaking a major climate change risk assessment for the UK, required by the Climate Change Act, which will explore the latest evidence of risks to the built environment.

The joint CCC and ASC Progress Report Summary can be found here.

The CCC's 2015 Progress report can be found here, with chapter 2 covering progress in buildings.

The ASC's 2015 report can be found here, where chapter 2 of the report covers the Built Environment. A more detailed technical annex to the Built Environment chapter, which contains the range of data underpinning the ASC's analysis, can be found here.

As statutory independent advisers to Parliament, members of both the CCC and ASC frequently meet with a range of Select Committees to provide input into their hearings. We will, of course, be more than happy to provide further evidence as the inquiry develops.