

Written evidence submitted by the National Infrastructure Commission FLO0067

The National Infrastructure Commission is responsible for assessing the UK's long-term economic infrastructure needs, providing impartial, expert advice on how to meet these through a National Infrastructure Assessment once in every Parliament, and specific studies on pressing infrastructure challenges as set by the Government. The Commission's objectives are to support sustainable economic growth across all regions of the UK, improve competitiveness, and improve quality of life. The Commission is required to demonstrate that its recommendations are consistent with the fiscal and economic remits set by the Government, and it publishes an Annual Monitoring Report, taking stock of the Government's progress in areas where recommendations have been accepted.

The Chair and other Commissioners are appointed by the Chancellor and supported by a secretariat led by the Chief Executive. The Commission operates in an open and transparent manner, building consensus around its recommendations and engaging across parties and with the public, policymakers, infrastructure experts and relevant bodies. The first National Infrastructure Assessmentⁱ (NIA) was published in July 2018 and included recommendations on resilience to floods and droughts. The final report from our study on infrastructure resilience, *Anticipate, React, Recover: Resilient infrastructure systems*ⁱⁱ provides a framework for resilience which builds on the approaches taken in the NIA and was published last month.

Flood risk management is one of six economic infrastructure sectors that fall within the Commission's remit. Our analysis for the NIA combined data from the Environment Agency with a new approach to explore the costs and benefits of different standards of resilience. This led us to recommend a nationwide standard of resilience to flooding. The announcement of a £5.2 billion programme in the March 2020 budget is welcome; however, the Government still needs a national standard to set out the aim for the programme and provide communities with the clarity they need. The Government is expected to formally respond to our recommendation through the National Infrastructure Strategy later this year.

Annex

The following provides evidence summarising the Commission's existing analysis relevant to the terms of reference issued by the Committee:

1. Are the current national and local governance and co-ordination arrangements for flood and coastal risk management in England effective?

The Commission's NIA found that the current approach to flooding is piecemeal and reactive. While it will never be possible to prevent all flooding, Government should ensure that all communities are resilient, so they are able to cope with, and recover from, flooding. There should be a long term national programme: resilience cannot be increased everywhere overnight and it will take time for the funding announced in the March 2020 Budget to make an impact on the ground. But a long term strategy, with long term funding, can deliver a national standard by 2050.

3. Given the challenge posed by climate change, what should be the Government's aims and priorities in national flood risk policy, and what level of investment will be required in future in order to achieve this?

Decisions about capital investment in flood risk management have generally been made on the basis of an assessment of whether it is 'worth' protecting particular homes and commercial properties. This results in a wide range of risks for different areas, but properties at risk of flooding are seldom abandoned or adapted, so people are left to live with the risk. The Commission's judgement is that all communities, wherever feasible, should be resilient to severe flooding, with a 0.5 per cent annual probability, by 2050. Under this standard, someone living in a location at risk of flooding for 20 years would face less than a 1 in 10 residual chance of not being able to cope.

A higher standard of 0.1 per cent should be provided for the largest cities, with populations over half a million. This reflects the lower cost per property for protecting densely populated areasⁱⁱⁱ and the potential for natural disasters in cities to result in cascading failures, putting severe pressures on disaster response. The largest cities provide a range of economic and social services to their region as a whole, not just to those who live within them, so the potential impact of flooding is greater.

The Commission estimated the investment required to deliver this standard of resilience to be approximately £33 billion^{iv} over the 30 years to 2050, at 2018/19 prices for a 2°C climate scenario. The Government's £5.2 billion programme over the next six years is consistent with this and is welcome: it should enable a very good start to be made on reducing flood risk. However, Government still needs to be clear about the aims for the programme and we believe it should adopt a national standard for flood resilience. This would provide local communities with the clarity they need, but will require the level of investment to increase further over the coming decades.

Adopting a national standard and accelerating some of the work needed to deliver it could feasibly meet other government objectives as we recover from the Covid-19 pandemic: resilience investments could help provide a short term stimulus within supply chains, and build confidence in the economy by demonstrating improvements ‘on the ground’ to benefit communities over the longer term.

5. With increasing focus on natural flood management measures, how should future agricultural and environmental policies be focussed and integrated with the Government’s wider approach to flood risk?

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6. How can housing and other development be made more resilient to flooding, and what role can be played by measures such as insurance, sustainable drainage and planning policy?

The Commission recommended that existing flood risk management plans should be updated to take account of the new standard and set out long term plans for flood risk management across catchments and coastal cells. These plans should use the latest evidence to evaluate the full range of options to achieve the proposed resilience standard including traditional flood defences, ‘green infrastructure’ (whether natural flood management or sustainable drainage systems), individual property measures, spatial planning and coastal realignment or ‘managed retreat.’ They will need to take account of the replacement of the Common Agricultural Policy following the UK’s exit from the EU which should support natural flood management. As risk can never be eliminated, flood warning, response and recovery will also continue to be important.

The plans will need to show how risk can be managed for all plausible climate futures. They should ensure interventions are adaptable to different futures and that climate change is factored into the design and construction of all infrastructure. This should be undertaken in such a way that the plans can be updated to reflect new information on climate change with the minimum of effort.

The Commission noted that surface water flooding is significant^v and there has been little progress in the decade since the Pitt review.^{vi} However, the data needed to robustly assess the costs and benefits of different resilience standards for surface water flooding were not available when the first NIA was prepared. Therefore, it was not possible to include surface water flooding in the analysis or recommendation at that time.

The full text of the recommendation to Government in the Commission’s 2018 National Infrastructure Assessment is:

The Commission recommends that government should set out a strategy to deliver a nationwide standard of resilience to flooding with an annual likelihood of 0.5 per cent by 2050 where this is feasible. A higher standard of 0.1 per cent should be provided for densely populated areas where the costs per household are lower.

The Commission recommends that, to deliver the strategy:

- By the end of 2019, government should put in place a rolling 6 year funding programme in line with the funding profile set out by the Commission. This should enable efficient planning and delivery of projects and address the risks from all sources of flooding.
- The Environment Agency should update plans for all catchments and coastal cells in England before the end of 2023. These should identify how risk can be managed most effectively using a combination of measures including green and grey infrastructure, spatial planning and property level measures.
- Water companies and local authorities should work together to publish joint plans to manage surface water flood risk by 2022.
- The Ministry of Housing, Communities and Local Government and planning authorities should ensure that from 2019 all new development is resilient to flooding with an annual likelihood of 0.5 per cent for its lifetime and does not increase risk elsewhere.

ⁱ NIC (2018a), [National Infrastructure Assessment](#)

ⁱⁱ NIC (2020), [Anticipate, React, Recover: Resilient infrastructure systems](#)

ⁱⁱⁱ Sayers and Partners and JBA Consulting for the National Infrastructure Commission (2018), [Flood standards of protection and risk management activities](#)

^{iv} NIC (2018b), [Technical annex: Flood modelling](#)

^v Committee on Climate Change (2017), Progress in preparing for climate change

^{vi} Pitt (2008), Learning lessons from the 2007 floods