

Written evidence submitted by The Environment Agency (FLO0037)

Executive Summary

- Despite the current coronavirus crisis the climate emergency remains the biggest challenge we face. It threatens our economy, environment, health and way of life. The scale of potential future flooding and coastal change is significant.
- We're already seeing evidence of a changing climate, with more frequent and more extreme flooding and coastal erosion. These changes mean a significant increase in the risks to communities, the environment, and infrastructure.
- The Flood and Water Management Act 2010 places a statutory duty on the Environment Agency to develop a National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England. The Environment Agency is finalising a new National Strategy which will be laid in Parliament later this year.
- We need to make places more resilient to flooding and coastal change, so that when it does happen it poses less risk to people, does less damage, and ensures life can get back to normal much quicker. Individuals, communities, the third sector, businesses, farmers, land managers and infrastructure providers all have a part to play in planning and adapting to future flooding and coastal change.
- Building and maintaining flood and coastal risk management schemes will continue to be essential in reducing the risk of flooding in the face of a changing climate.

1.0 The Environment Agency's role in flood and coastal risk erosion management

1.1 Under the Flood and Water Management Act 2010, we have a strategic overview of the management of all sources of flooding and coastal change, and are the lead authority for managing the risk of flooding from main rivers, estuaries and the sea. Our key FCERM activities fall under 3 main roles.

Statutory advisor

1.2 We provide advice to local authorities on planning applications, local and strategic plans and environmental assessments. We are also a statutory consultee for nationally significant infrastructure projects.

Infrastructure provider

1.3 We allocate central government funding for and build FCERM schemes. We also operate, maintain and replace significant national flood and coastal defences including most of the nation's major flood barriers and flood risk management pumping stations. In total we maintain around 5,200km of defences on main rivers, 1,200km of tidal defences and 600km of coastal defences. We are also a Category 1 emergency responder under the Civil Contingency Act 1994. This includes specific operational duties such as warning and informing communities, preparing for and assessing the risk of emergencies, putting in place emergency plans and sharing information and cooperating with other responders to enhance coordination.

Strategic overview

1.4 We set the direction for managing the risk through our National FCERM Strategy for England¹ and through place-based strategies such as the Thames Estuary TE2100

¹ The Environment Agency has a statutory duty to develop, maintain, apply and monitor a national FCERM strategy. This is a requirement of Section 7 of the Flood and Water Management Act 2010, <https://www.legislation.gov.uk/ukpga/2010/29/section/7>

Plan, Flood Risk Management Plans (FRMPs) and Shoreline Management Plans (SMPs). We provide evidence and advice to inform government, support others to develop skills and capacity, carry out surveys and mapping and warn and inform communities and emergency responders about flood risk.

- 1.5 In addition to our three key roles, we work with other Risk Management Authorities (RMAs), Regional Flood and Coastal Committees (RFCCs) and coastal groups to promote co-operation, partnership working and information sharing.
- 1.6 We are at the forefront of efforts to make the country resilient to risks resulting from global heating and the climate emergency. In 2020 we will publish a new National FCERM Strategy for England, with a vision for 'a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100'.
- 1.7 For further details on our role, and the role of others in managing coastal change, please refer to our Written Evidence submitted to the EFRA Select Committee's 2019 inquiry into coastal flooding and erosion, and adaptation to climate change.²
- 1.8 We have responded below to the questions raised in the Committee's call for evidence.

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

- 2.1 The most effective solutions for FCERM combine national oversight and funding with local choices and management. National oversight is provided by our strategic overview role. All RMAs (including the Environment Agency) are expected to exercise their FCERM functions consistently with the National FCERM Strategy and to exercise all other functions that may affect flooding or coastal change having regard to the Strategy. We work locally with RMAs and RFCCs to support local choices and management of flood and coastal risk. RFCCs are responsible for ensuring there are coherent local plans for catchments and shorelines, approve local programmes of work and raise local funding for local priorities.³
- 2.2 In addition to the Environment Agency in our strategic overview role, RFCCs and local authority Overview and Scrutiny Committees also ensure bodies involved in FCERM meet the relevant governance and performance requirements.⁴
- 2.3 Working with local communities and organisations is key to managing flood risk and coastal change. The existing governance arrangements enable the successful delivery of our national FCERM investment programme in partnership with others. Between 2015 and 2021, we will have secured around £600 million of partnership

² Environment Agency, Written evidence to EFRA Committee – Coastal flooding and adaptation to climate change, 2019,

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/coastal-flooding-and-adaptation-to-climate-change/written/101232.html>

³ Environment Agency, Regional Flood and Coastal Committees,

<https://www.gov.uk/government/organisations/environment-agency/about#regional-flood-and-coastal-committees>

⁴ Under the Local Government Act 2000, Overview and Scrutiny Committees have the ability to review and scrutinise RMAs in relation to their flood management work. Local authorities have flexibility to decide how these local scrutiny arrangements should operate, and are responsible for ensuring that there is effective local democratic oversight of the work of RMAs. RMAs have to comply with requests for information from Overview and Scrutiny Committees.

funding to add to the Government's £2.6 billion programme, enabling us and our partners to better protect 300,000 households and deliver local benefits to communities across the country. For example, the Sheffield Lower River Don scheme was the first scheme of its kind in the UK to have business owners contributing to the costs of flood risk management through the creation of a Business Improvement District – a business led partnership created to bring additional services to local businesses.⁵

- 2.4 We maintain national information on the current and future risks arising from all sources of flooding and coastal erosion. The Met Office, the Environment Agency and the Flood Forecasting Centre provide a world-class forecasting and warning service with approximately 1.4 million properties signed up to receive free flood warnings. This data is used at a local level as part of our river and sea levels service on GOV.UK. We now offer a 36 hour river level forecast to 60 locations and continue to learn and iterate the service based on community feedback.
- 2.5 Flood and coastal erosion risk is increasing with climate change and population growth. We build and maintain flood defences taking account of this and will continue to do so. However, our draft National FCERM Strategy for England recognises that we can't eliminate all flooding and coastal change. It promotes increased resilience and the need to meet the 25 Year Environment Plan goal of reduced harm from flooding and coastal erosion.⁶
- 2.6 The new National Strategy, which will be laid in Parliament later this year, has been developed with over 90 organisations including local government associations and national and civil society organisations, such as the Association of Drainage Boards, the National Farmers Union, and the National Flood Forum.
- 2.7 The National Strategy will provide a consistent national legal framework and strategic direction for RMAs, supported by evidence and technical expertise, and allows RMAs to set their own local priorities within this framework.
- 3.0 What lessons can be learned from the recent floods about the way Government and local authorities respond to flooding events?**

- 3.1 This winter (2019/20) was the fifth wettest winter on record in the UK and February 2020 was the wettest February on record.⁷ England received 154.9mm of rainfall, which is 258% above the average amount for February between 1981 and 2010. Over 4,600 properties were flooded across England between November 2019 and late February 2020. From satellite imagery we estimate that over 36,000 hectares of farmland were impacted as a result of Storm Ciara and over 77,000 hectares were impacted as a result of Storm Dennis.
- 3.2 We can never prevent all flooding and every flooded home or business is a personal tragedy. But flood defence works. The investment in flood defence over the last few years has meant people and properties are now better protected and fewer homes and businesses are being flooded. This winter, despite record breaking rainfall, fewer than 5,000 properties flooded and nearly 130,000 were protected. These figures

⁵ Environment Agency, £21 million Sheffield flood defence completed, <https://www.gov.uk/government/news/21-million-sheffield-flood-defence-completed>

⁶ Department for Environment, Food & Rural Affairs, A Green Future: Our 25 Year Plan to Improve the Environment, <https://www.gov.uk/government/publications/25-year-environment-plan>

⁷ Met Office, Record Breaking Rainfall, <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2020/2020-winter-february-stats>

reflect the better protection that investment in flood defences over the last few years has produced.

Table 1: Properties flooded and protected in recent significant flood events

Flood event	Properties flooded	Properties protected
Summer 2007	55,000	Over 100,000
Winter 2013/14	11,000	Over 1 million*
Winter 2015/16	17,000	23,000
Winter 2019/20	4,600	128,000

*Large number of properties protected during winter 2013/14 reflects the level of coastal flood risk during this period, including the largest east coast tidal surge since 1953.

3.3 Since the floods of winter 2015/16 the Government has invested £16.5 million in new flood equipment. The Environment Agency now has an additional 40km of temporary barriers and 72 pumps including 12 ultra-high volume pumps. At the peak of the recent flooding, 1,000 Environment Agency staff per day were mobilised operating flood defences and temporary pumps, clearing debris from rivers, inspecting damaged flood risk management assets and making repairs.

3.4 A post incident review is underway and we are committed to ensuring any recommendations for improvement are delivered before winter 2020/21. Initial learning includes:

Working together

3.5 The collaboration and coordination efforts between the Environment Agency and Local Resilience Forums generally worked very well, showing the benefits of multi-agency training and exercising. For example, Internal Drainage Boards (IDBs) operated their pumping stations and supported communities with staff out on the ground, and military personnel helped to construct temporary flood defences.

Continued investment in flood risk management and maintenance

3.6 Since 2015 over 650 schemes have been completed, better protecting over 205,000 homes. This winter, flood defences protected over 128,000 properties from flooding. Schemes completed in the past few years, such as in Burton-on-Trent, Godalming and Salford have ensured that communities that would have flooded in the past, didn't flood again. We estimate that £4.6 billion in flood damages to people, properties, businesses, landowners and infrastructure were avoided during the 2019/20 winter floods, primarily due to the effectiveness of flood defences.

Making homes and businesses more resilient

3.7 There were examples of communities recovering more quickly where they had installed property level resilience measures after previous floods. We also made widespread use of temporary barriers with over 6km installed across the country.

Communications

3.8 Our digital services and online flood information service saw record numbers of users checking their flood risk and we also made greater use of the media to warn and inform the public.

- 3.9 Other reviews are also ongoing and we will provide input and support. As announced in 'Planning for the Future', Defra and MHCLG will be working closely together to review national planning policy for building in areas at flood risk. In April, the Government also announced an independent review into flood insurance, to be led by the former chair of the ABI.
- 3.10 In November 2019 we set up a recovery programme to repair assets, support impacted communities, capture flood data and share learning. In the March 2020 Budget the Government announced £120 million for the Environment Agency to repair assets that we maintain which were damaged by the winter floods. Working closely with local authorities and Multi-Agency Recovery Groups, we have completed over 14,000 inspections of affected assets since 12 February 2020. Whilst this work has been impacted by the coronavirus pandemic, we have made significant progress in identifying what repairs are required. As of 17 April 2020, our programme includes approximately 1,000 assets that need repairs and over 550 projects to better protect communities.

4.0 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?

- 4.1 Our 2019 long-term investment scenarios (LTIS) show that the number of properties at risk of flooding will double over the next 50 years due to a combination of climate change and new development. Over two-thirds of properties in England are served by infrastructure sites and networks located in, or dependent on others located in, areas at risk of flooding. For every household directly affected during a large flood, about 16 people suffer knock-on effects from losses of utility services.⁸ Changing weather patterns could impact the productivity of agriculture land whilst rising sea levels could lead to the permanent loss of land in some areas by the end of the century.
- 4.2 If we are to avoid flood risk getting worse, we estimate that in the long-term as a nation we need to spend an average of over £1 billion a year – with a minimum of £50 billion in flood and coastal risk management over the next 50 years.⁹
- 4.3 Our draft National FCERM Strategy's vision is for a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100. It calls for a national suite of resilience tools to help places to avoid, prevent, protect, respond and recover from the future threat of flooding and coastal change.¹⁰ Building and maintaining high quality flood and coastal defences will remain vitally important to the nation's resilience to flooding. From April 2021, the new 6 year programme to invest the £5.2 billion announced in the March Budget will start. Significant partnership funding contributions from local authorities and private sources will be needed to deliver the outcomes from this government investment, and this will be challenging.

⁸ Environment Agency, Flood and coastal risk management: Long-term investment scenarios, <https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment>

⁹ Environment Agency, Flood and coastal risk management: Long-term investment scenarios, <https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment>

¹⁰ Environment Agency, Draft National Flood and Coastal Erosion Risk Management Strategy for England, https://consult.environment-agency.gov.uk/fcrm/national-strategy-public/user_uploads/fcrm-strategy-draft-final-1-may-v0.13-as-accessible-as-possible.pdf. Our evidence to the EFRA Select Committee inquiry into coastal flooding and adaptation to climate change (2019) provides more detail on the draft National Strategy.

- 4.4 Due to the increased frequency and severity of flood incidents, our operational costs are rising. We continue to make the case for funding the operation and maintenance of Environment Agency maintained FCERM assets in the new spending review. This includes a long term revenue settlement aligned to the capital investment announced in the Budget. Over time, the higher levels of capital investment will also generate further pressure on our revenue funds.
- 4.5 Our cities, towns, rural communities, farmland and infrastructure need to be more resilient to flooding and coastal change. This will include making the best land use and development choices, protecting people and places, responding to and recovering from flooding and coastal change whilst all the time adapting to climate change. Improved resilience ensures that when flooding does happen, it poses much less risk to people, does less damage, and ensures life can get back to normal much quicker.
- 4.6 Looking out to 2100, we need to help local places plan better and adapt to future flooding and coastal change, taking account of the latest climate science, growth projections, investment opportunities and other changes to our local environment. This 'adaptive pathway' approach is already used in some locations in England. For example, the Thames Estuary 2100 Plan identifies a series of approaches or options for different climate change, social and economic futures.¹¹ The plan is adaptable to a changing climate to ensure that the actions taken are the right ones, taken at the right time to benefit people and the economy. The approach can be applied to any place-based plan enabling a combination of resilience tools to be developed, agreed and mapped across adaptive pathways to the year 2100 and beyond.

5.0 How can communities most effectively be involved, and supported, in the policies and decisions that affect them?

- 5.1 We work with lots of partners who represent their communities to reduce flood risk for people, property and the environment.
- 5.2 Our capital investment programme consists of FCERM schemes developed and promoted by local authorities, IDBs and the Environment Agency, in collaboration with communities. RFCCs play a key role by encouraging efficient, targeted and risk-based investment, and by providing a link between the Environment Agency, Lead Local Flood Authorities (LLFAs), and other relevant local bodies. RFCCs also allocate funding through local levy.¹² All RMAs are able to influence investment through their representatives on the RFCCs. We take into account local needs and opportunities identified by RFCCs to help maximise the potential number of homes better protected with the funding available.
- 5.3 The Government's Partnership Funding policy means that local communities can raise additional contributions to deliver projects that could not be funded by central government alone.¹³ Some locations that previously had little prospect of a fully funded project are now entitled to a share of project costs through government funding. Projects in small towns, villages and communities can attract funding. For example, the Badsey Brook FCRM scheme in Worcester was delivered in

¹¹ Environment Agency, Thames Estuary 2100, <https://www.gov.uk/government/publications/thames-estuary-2100-te2100>

¹² The Environment Agency can raise local levy through local authorities (i.e. council tax) which the 12 RFCCs can allocate to local priorities which deliver flood or erosion risk reduction.

¹³ Department for Environment, Food & Rural Affairs and Environment Agency, Partnership funding, <https://www.gov.uk/guidance/partnership-funding>

partnership with Worcestershire County Council, Wychavon District Council and the local parishes contributing £900,000 towards the £4.1 million scheme.¹⁴

- 5.4 We involve local communities and organisations in decisions on maintaining our operational defences and publish our River and Coastal Maintenance Programme to show what work is being undertaken to repair or refurbish assets.¹⁵ In some cases, where we cannot justify continued maintenance using government funding we may need to stop maintaining some assets. Our Maintenance Protocol ensures we discuss options with those directly affected and develop sustainable alternative arrangements.¹⁶ These can include:
- Individuals maintaining the assets themselves;
 - Setting up a community partnership, neighbourly arrangement or an IDB;
 - Changing land use;
 - A combination of these options.
- 5.5 We want to ensure the right bodies are managing the right watercourses. As part of a pilot project we recently transferred flood risk management activities on some stretches of watercourses to IDBs where there was public support for doing so.
- 5.6 Individuals, communities and businesses need to better understand their risk to flooding to enable them to be part of the decisions that affect them.¹⁷ Three quarters of the 8 million visits a year to Environment Agency's GOV.UK web pages are flood related and this is increasing. We are investing in customer-driven digital services to better communicate risk from flooding and coastal change and are expanding our flood warning service to all places at a high risk of flooding from rivers and the sea. Communities have also used our open data to enhance their local flood knowledge. For example, the Pang Valley flood forum has incorporated our Risk of Flooding from Rivers and the Sea data into its community web applications.
- 5.7 Individuals, communities and businesses also need to know what actions they can take to help them recover faster when flooding does happen. For example, the 'Book Case' bookshop in Hebden Bridge was able to recover faster from flooding in February 2020 after installing property flood resilience methods such as a flood gate, flood barrier, and a sump pump.¹⁸
- 5.8 Engaging communities at risk will be key to managing future flood risk. Our 'Working together to adapt to a changing climate' project will design and evaluate a community engagement programme on understanding of flood risk. The research will pilot new approaches, test their effectiveness and provide resources for flood practitioners to use.

¹⁴ Environment Agency, Flood risk management scheme for Worcestershire village opens, <https://www.gov.uk/government/news/flood-risk-management-scheme-for-worcestershire-village-opens>

¹⁵ Environment Agency, River and coastal maintenance programmes, <https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme>

¹⁶ Department for Environment, Food & Rural Affairs and Environment Agency, Flood and sea defences: when maintenance stops, <https://www.gov.uk/guidance/flood-and-sea-defences-when-maintenance-stops>

¹⁷ In 2019, only 36% of those with properties in areas classified by the Environment Agency as being at risk, actually believed their property was either 'definitely' or 'probably' at risk (Environment Agency, unpublished flood awareness survey data, 2019).

¹⁸ BBC News, Hebden Bridge shop sign protects store from flooding, <https://www.bbc.co.uk/news/av/uk-england-leeds-51508026/hebden-bridge-shop-sign-protects-store-from-flooding> and <https://twitter.com/bookcasehebden/status/1226962345815085056>

- 5.9 Charities and local flood groups continue to lead the way in supporting communities to plan, respond and recover to flooding, taking shared ownership of managing future flood and coastal risks. Organisations such as the National Flood Forum¹⁹ and Action for Rural Communities in England²⁰ work closely with communities, although the work they are able to do is often limited by their funding. Community resilience should also recognise the value of local volunteers and community groups. For instance, volunteer flood wardens are often the eyes and ears in a community, working with the Environment Agency and local authorities.
- 5.10 RMAs are working ever more closely with local communities to involve them in decision making. However, there is more to do, such as:
- Developing RMA skills and capabilities needed to better support communities to adapt to future flooding and coastal change;
 - Providing information and supporting people to better prepare and respond to flooding and coastal change, including transforming how people receive flood warnings;
 - Ensuring people and businesses receive the support they need from all those involved in recovery so they can get back to normal quicker after flooding, including better accounting for the long term mental health impacts;
 - Becoming a world leader in research and innovation of flood and coastal risk challenges to better protect current and future generations.

6.0 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?

- 6.1 The Environment Agency recognises that we need to make nature's power part of our solution alongside engineered flood defences. We hope to see support to farmers and land managers to help reduce flood risk through the new Environmental Land Management Scheme.
- 6.2 Nature based solutions can make an important contribution in achieving climate resilient places because they help to slow, store and filter water – helping make our river catchments, estuaries and coasts more resilient to the impacts of climate change. They can also contribute to wider climate change and sustainable development objectives (e.g. carbon absorption) and help achieve the ambitions of the Government's 25 Year Environment Plan.
- 6.3 Examples of nature based solutions include reconnecting rivers with their floodplains, creating new areas where water can be stored, improving the way in which land and soil is managed, and setting back defences on the coast to create saltmarsh habitat. In towns and cities, green infrastructure and sustainable drainage systems can reduce surface water flooding while also helping enhance biodiversity.
- 6.4 On their own, nature based solutions are rarely enough to make a step-change in reducing the risk from the most significant flood events, but they can play a key role in reducing flood risk in combination with other measures. They work best as part of catchment-wide approaches to managing the flow of water from the source to sea. This ensures that nature based solutions and engineered defences complement each other to manage flood risk. Examples include the Lustrum Beck and Leeds flood alleviation schemes.

¹⁹ National Flood Forum, <https://nationalfloodforum.org.uk/>

²⁰ Action for Rural Communities in England, <https://acre.org.uk/>

- 6.5 In 2017 Defra funded the Natural Flood Management (NFM) programme to further develop the evidence base around working with natural processes to reduce flood risk. The programme continues until 2021 and includes 58 schemes across England, including both catchment and community scale projects, led by RMAs, community groups and charities. The learning from the programme means that some 200 projects in the next 6 year programme will incorporate NFM measures.
- 6.6 The Environment Agency's NFM evidence base and case studies provide information on the benefits of working with natural processes.²¹ This will be updated in 2021 to include up-to-date evidence and new case studies drawn from:
- Defra's NFM programme;
 - The Natural Environment Research Council's NFM programme which is collating significant evidence in the Upper Thames, Peak District and Cumbria;
 - A planned update to the Oxford St Martin's NFM restatement.²²
- 7.0 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?**
- 7.1 Resilience is the capacity for people and places to plan for, better protect, respond to, and recover from flooding and coastal change.
- 7.2 Work by the Environment Agency and other RMAs has ensured we are already making strong progress towards housing and other development that is more resilient to flooding.
- 7.3 Current planning policy is very effective at limiting inappropriate development in the floodplain. For example, in 2018/19 99.4% of new homes included in planning applications were determined in line with Environment Agency advice on flood risk.
- 7.4 The National Planning Policy Framework (NPPF) makes it clear that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. However, due to population growth and land availability, it isn't always possible or practical to prevent all new development in flood risk areas. Around 10% of England is at high flood risk, including large parts of major cities such as Hull, Portsmouth and central London. Where avoidance is not possible, government planning policy requires that development is designed to be safe for its lifetime, without increasing flood risk elsewhere. On the coast, the NPPF is clear about reducing the risk from coastal change by avoiding inappropriate development in vulnerable areas and not exacerbating the impacts of physical changes to the coast.
- 7.5 Our 2019 LTIS show that as long as local planning authorities (LPAs) implement national planning policy effectively, the increase in future property damage from flooding should be relatively modest at 4%. However, if national planning policy or its local implementation is weakened, the outlook could be very different, with property damages potentially increasing by over 30% over the next 50 years.²³

²¹ Environment Agency, Working with Natural Processes to reduce flood risk: The evidence behind Natural Flood Management, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/654440/Working_with_natural_processes_one_page_summaries.pdf

²² Oxford Martin School, Natural flood management: Restatement 4, https://www.oxfordmartin.ox.ac.uk/downloads/academic/Oxford_Martin_Restatement4_Natural_Flood_Management.pdf

- 7.6 Recent flooding has raised questions over development in the floodplain and demonstrates a lack of public understanding about government planning policy and decision making. There is a need to make planning decisions more transparent. For example:
- LPAs could be required to report to government to explain and justify decisions that are contrary to flood risk advice;
 - LLFAs could be consulted on all developments in flood risk areas, not just major developments;
 - The Environment Agency's statutory consultee role could be extended to development in areas at future flood risk, i.e. accounting for climate change
- 7.7 LTIS 2019 also underlines the importance of national infrastructure resilience (see paragraph 4.1). For example, infrastructure owned by water companies plays a vital role in draining urban areas and reducing the likelihood and impact of sewer and surface water flooding; but this infrastructure is vulnerable to all sources of flooding and coastal change which can cause misery to customers. Water companies and local authorities should work together to build on their existing plans and take action on local flood risk including surface water, for example through investing more in sustainable drainage systems, where this is possible.
- 7.8 We can't eliminate all flooding and coastal change, and so we need to be better at adapting to living with the consequences when it happens. Spatial planning policy is just one aspect of this. Other ways we could improve resilience include:
- Property flood resilience measures which can work alongside traditional defences or on their own to help reduce the flood damages experienced by property owners, occupiers and businesses and enable faster recovery in local communities;
 - Green infrastructure and sustainable drainage systems in towns and cities which can reduce surface water flooding while also helping enhance biodiversity and access to green spaces;
 - Insurance companies could change their policies on pay-outs following flooding or coastal change, so places could be built back better, making them more resilient;
 - Insurance companies could incentivise customers at risk of flooding and coastal change to take action before a flood, in a similar way to how they incentivise customers to have strong locks on windows and doors for security reasons;
 - Mortgage lenders could require resilience measures to be fitted to a property at risk of flooding or coastal change before they grant a mortgage.

May 2020

²³ Environment Agency, Flood and coastal risk management: Long-term investment scenarios, <https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment>