



# Flood and Coastal Erosion Risk Management

*Policy Position Statement*

**May 2022**

Note: CIWEM Policy Position Statements (PPS) represent the Institution's views on issues at a point in time. It is accepted that situations change as research provides new evidence. It should be understood, therefore, that CIWEM PPSs are under constant review and that previously held views may alter and lead to revised PPSs. PPSs are produced as a consensus report and do not represent the view of individual members of CIWEM

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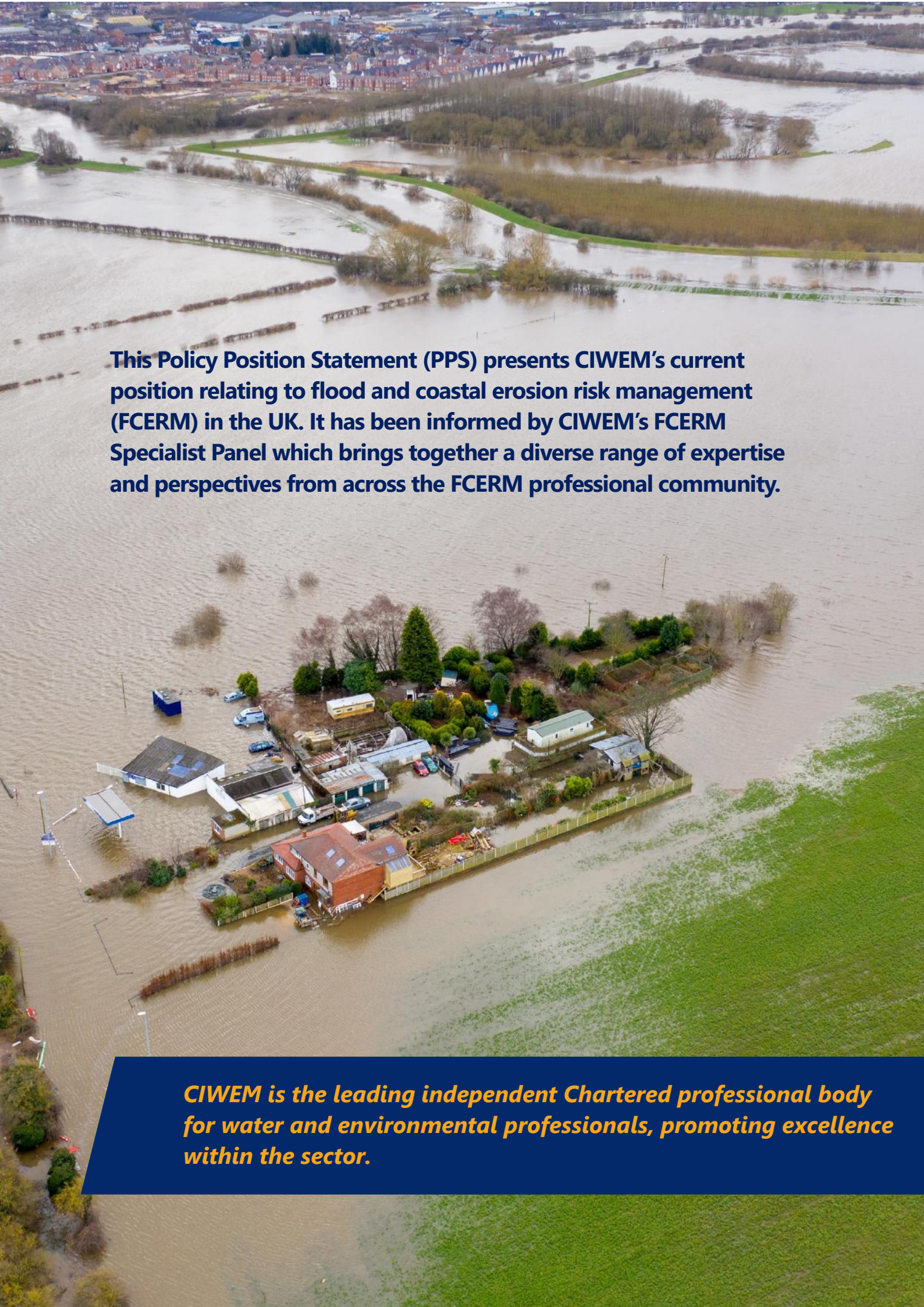
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**This Policy Position Statement (PPS) presents CIWEM's current position relating to flood and coastal erosion risk management (FCERM) in the UK. It has been informed by CIWEM's FCERM Specialist Panel which brings together a diverse range of expertise and perspectives from across the FCERM professional community.**

***CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector.***

# Overview

Our climate is changing and the impacts of this will be strongly felt in relation to FCERM, as highlighted in the latest Climate Change Risk Assessment. It notes that early adaptation to these risks is considered highly cost beneficial because small changes in average temperature can drive large shifts in extreme events.

Adaptation was a focal point for the UK Presidency at the COP26 in 2021. This now needs to be reflected through ongoing evolution and development of FCERM policy and delivery mechanisms, and in wider consideration of adaptation and flood resilience across the economy and society. Factoring net zero ambitions into FCERM projects will be an important consideration in addressing mitigation and adaptation in tandem where possible.

CIWEM considers that significant change is still required to improve the funding, planning and delivery of FCERM to meet the climate change emergency the UK faces, particularly in relation to maintenance and operational activities, and surface water management, despite increases to capital funding for FCERM in recent years.

Effective management of the increasing risk from all sources of flooding and coastal erosion will enable communities and infrastructure to be safe and resilient, support social and economic improvements and a sustainable natural environment.

The National Risk Register of Civil Emergencies rates coastal and inland flooding as amongst the highest risks to the UK. This is because a flood event is both relatively likely and could have a serious impact upon communities, businesses, and infrastructure. A major flood event is happening almost every year, rainfall records are regularly broken, and storms are impacting large parts of the UK at any time of year not just winter. Significant parts of the UK's coastline are eroding, permanently impacting communities and infrastructure. The economic costs run into billions of pounds and the impacts upon peoples' health, disruption and loss of life are profound.

The UK Climate Projections 2018 (UKCP18) point to increased levels of rainfall and storminess in the UK and, whilst summers are projected to be hotter and drier, rainfall is likely to be more intense.

Alongside this, sea levels are projected to rise between roughly 30cm and more than 100cm depending on how effectively global carbon emissions are reduced. These factors mean we should plan for an increased likelihood of flooding and severity of impacts when flooding occurs. Increasing sea levels and storm frequency also indicate increasing likelihood of coastal erosion and consequent impacts.

The UK government and the Devolved administrations in Scotland, Wales and Northern Ireland are taking steps to respond to the risks of flooding and coastal erosion. Policies, Strategies and Management Plans have been developed at national, coastline, river catchment and local spatial scales. However, CIWEM believes their objectives need to be much more ambitious and delivered sooner to meet the UK's COP26 climate change commitments and the pressing flood and coastal challenges head on.

Current assessment of the preparedness of the UK for dealing with climate change indicates that only a very small proportion of the economy and society are planning and preparing for projected levels of climate change and its impacts. The aims of the UK's four nations' various flooding and coastal erosion policies, strategies and management plans will not succeed if implemented in isolation nor if other policy areas – such as those relating to development – conflict with them. More needs to be done – particularly on six key topics set out below.



## CIWEM calls for:

### Improved planning for adaptation and development

A more robust approach is required for strategic spatial planning and design standards for new development – residential, commercial and infrastructure – that places much greater weight on considering current and future impacts of flood risk and coastal change.

Stronger policies are needed to avoid new development in places that are currently or will become at high risk of flooding or coastal erosion. Growth must be sustainable for its socio-economic benefits to be realised. Realistic, deliverable strategies are needed to enable existing developments to adapt and become resilient and to relocate communities where risk will be too high to implement a sustainable scale of adaptation.

Significant improvement is needed on how information on all forms of flooding and coastal erosion is used to inform truly sustainable growth and planning decisions. This should include better integration of data and reflect the predicted effect of climate change to make robust forward-looking decisions. Management Plans for shorelines, catchments and local areas must become compelling catalysts for change rather than tick box exercises. There should be wider implementation of Coastal Change Management Areas in Local Plans and an expansion of their approach to inland flooding.

### Increased priority for managing surface water flood risk

Severe or prolonged rainfall can cause flooding to any community, not just those near a river or coast. It also increases the frequency and severity of sewer flooding, causing misery to householders and pollution. A month's worth of rain falling in just 24 hours is now a regular reality causing catastrophic damage and death in Europe and North America and such events could similarly impact the UK.

Given the scale of the surface water flood risk, significantly improved assessment and management is urgently needed including effectively designed and maintained Sustainable Drainage Systems (SuDS) and comprehensive Drainage and Wastewater Management Plans.

Managing surface water flood risk should be given a higher priority in funding allocations, spatial planning decisions and practitioner skills and training, with bespoke approaches reflecting the characteristics of surface water flooding as distinct to river and coastal flood risk management processes. For areas at risk of flooding from groundwater, reservoirs, or other artificial structures there should also be greater awareness of these in risk assessment, decision making, funding and skills.

## Funding allocations proportionate to the size of the challenge

Flooding causes billions of pounds in economic damage and long-term impacts on peoples' physical and mental health. Investing in FCERM minimises the scale of economic impacts, for example £29.4bn in damages avoided in England due to flood defences between 2015-2021<sup>1</sup>. FCERM funding by the UK and devolved governments needs to reflect levels identified in long-term FCERM and climate change investment scenarios to deliver the essential resilience.

CIWEM welcomes the UK government's commitment to double the capital funding for FCERM schemes in England during 2021-2027 and we call for a significant, sustained funding increases in the other nations of the UK. Funding allocations should be proactive and long term to maximise their efficient use and benefits realised, rather than on an annual or post-flood event basis. Arrangements for seeking additional, collaborative funding for FCERM schemes should be simplified to make the process easier and quicker, with robust incentives to facilitate greater contributions from the private sector.

No matter how much funding is provided to implement flood and coastal risk measures, without sufficient skilled staff operating across all FCERM functions communities and the economy will remain vulnerable.

There remains a need for much greater levels of ring-fenced funding for FCERM revenue activities such as maintenance work, emergency planning, community engagement, mapping, modelling, forecasting and warning services. To deliver these vital activities increased numbers of skilled staff are needed – a robust green growth and job creation opportunity.



<sup>1</sup> Environment Agency 2020. [National FCERM Strategy for England](#)



## Resilient Communities

Communities can be repeatedly affected by flooding and coastal erosion. This can have an irreversible impact upon them, therefore they must be at the heart of decision making<sup>2</sup>. The UK's approaches to engaging communities and local businesses in managing flood risk and coastal erosion must be informed by the challenges we will face in the future rather than how we responded to events in the past.

This focus must ensure that the needs of the disadvantaged and vulnerable, and of mental and physical health impacts are embedded in how flood risk is measured and managed at community and national scales, such as by the Wales Communities at Risk Register. Local knowledge and skills should be engaged in all levels of planning for resilience, supported by fairness, transparency, and accountability by those in positions of responsibility.

There needs to be a step change in the depth of communities' understanding of what resilience to flooding means for them, in that not all flooding can be prevented and that planning for a rapid, effective recovery after an event is a necessity.

Similarly, there should be clear, deliverable pathways to adaptation, including relocation, for those communities at risk of coastal change. Governments and the insurance industry must ensure that affordable and accessible insurance is available for all homeowners and businesses and that all flooded properties are consistently repaired in a flood resilient, high-quality manner, 'building back better' to assist recovery from any future flooding.

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<sup>2</sup> National Flood Forum, 2019. [Flood Risk Communities' Charter](#)



## Effective land use

FCERM solutions that utilise nature-based approaches and work with natural processes should be comprehensively implemented across the UK. Opportunities to use new incentive mechanisms for agriculture, forestry and the coast should be maximised, such as the four nations' new agriculture/environmental land management schemes following exit from the EU. These will provide wide ranging benefits for landowners and users and communities at risk and mutually support the delivery of other policies and plans to improve local socioeconomics, environments and address the climate emergency.

Recent research<sup>3</sup> confirms that natural flood and coastal erosion risk management measures are effective in a range of scenarios but not everywhere. Governments, Risk Management Authorities, landowners and land users must work collaboratively to prioritise areas where nature-based approaches and the funding for them will have the maximum benefit along river catchments and coastlines.



## Mitigating the impact of climate change

We have a decade in which to set ourselves firmly on the trajectory to a zero-carbon economy if we are to keep global warming to a maximum of 1.5°C and avoid dangerous climate change. Building, using and maintaining flood and coastal defences creates a

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<sup>3</sup> Defra. [Evidence review of the concept of flood resilience](#). 2020

significant carbon footprint and the emissions from these activities and materials used needs to significantly reduce.

Flood and coastal risk management of course needs to continue but requires rapid innovation and change to find and adopt methods that require much less carbon, and which may also have the ability to sequester carbon. All potential avenues should be explored including more use of nature-based approaches, lower carbon building materials and lower and renewable energy usage. National and local governments will need to adapt their policies and processes at pace to be an enabler to rather than an obstacle to low and zero carbon FCERM.

### **Maintaining existing FCERM infrastructure**

An extensive network of flood, coastal and water management (e.g., reservoirs) infrastructure exists across the UK, much of it having been built over 50 years ago. Investing sufficient funding, skills and staff to maintain that existing infrastructure is therefore vital and should have an equal priority to that for building new infrastructure. Existing infrastructure has generally performed well to date however the effects of climate change will place significantly increasing pressure on it, with rising sea levels and increased frequency and severity of flooding.

Continual investment is the most cost effective and safest approach rather than reactively intervening only when the risk of a flood defence or reservoir failing becomes apparent. There needs to be more effective investment in the maintenance or replacement of infrastructure and fully funded plans to address the large number of legacy and aging flood defences, drainage systems and reservoir dams we have in the UK.

