Comisiwn Seilwaith Cenedlaethol Cymru
National Infrastructure Commission Wales

National Infrastructure Commission for Wales
Written Submission to CCEI Committee Inquiry on Flooding
January 2025

About

The National Infrastructure Commission for Wales (NICW) was established in 2018 as an independent, non-statutory, advisory body to Welsh Ministers. Its key purpose is to analyse, advise and make recommendations on Wales' longer term strategic economic and environmental infrastructure needs over a 5–80-year period. NICW conducts studies into Wales' most pressing infrastructure challenges and makes recommendations to the Welsh Government. The advice provided by NICW is impartial, strategic and forward looking in nature. NICW is accountable to the Welsh Ministers for the quality of its advice and recommendations and its use of public funding.

Building Resilience to Flooding in Wales by 2050 Report

The 2021 Co-operation Agreement states – "we will also ask the National Infrastructure Commission for Wales to conduct an assessment of how the nationwide likelihood of flooding of homes, businesses and infrastructure can be minimised by 2050".

Scoping for the report began in December 2022. This highlighted gaps in existing research and thinking where NICW could make a useful contribution to current and future thinking. In Autumn 2023 research on four workstreams commenced. These included: developing a vision for flood management in Wales; examining strategic and spatial approaches to flood risk; investigating current resource levels and sources; and a review of the current land-use planning practices (including the collation of data).

This research was delivered by April 2024 and our final report was published in October 2024. This made 17 recommendations across four themes of: governance, structures and policy; collaboration, partnerships and community; funding and capacity; and awareness, skills and data.

We are awaiting the Welsh Government's formal response to our recommendations.

Our report and research did not specifically look at the response to specific storm events, as we were aware that other bodies have responsibilities to assess these and make improvements. However, NICW can provide the following information for the CCEI Committee's lines of inquiry.

Forecasting, Warning, and Alert Systems

Our report emphasises the importance of predictive data and early-warning systems as part of the vision for a flood-resilient Wales by 2050.

Our Vision highlights a future where today's emerging technology is used to support open and transparent access to data. This includes data-driven weather prediction models that provide real-time, hyper-localized forecasts of flood risks. Autonomous

machines are used to monitor water levels, the structural integrity of flood defences, and the performance of nature-based solutions.

Our recommendations on data include:

- enabling technological changes and early-warning systems to alert communities and businesses in areas of potential risk,
- setting up open data repositories for all public data, unless there are overriding reasons why this is not in the public interest.
- undertaking a review to identify how river health, biodiversity, and water quality information can be hosted in a central space and communicated/shared with communities and organisations across Wales.

Resilience of Infrastructure

Our report addresses the resilience of infrastructure to storm-related impacts, emphasizing the need for a comprehensive and integrated approach to enhance the resilience of various infrastructure systems, including water and sewerage systems, electricity distribution infrastructure, and transport networks.

The report emphasizes the need for long-term, sustained, and aligned planning to enhance the resilience of infrastructure. This involves developing strategic frameworks and policies for resilient land use planning and infrastructure development. Recommendations include extending and aligning the current Flood and Coastal Erosion Risk Management (FCERM) investment program, scaling up investment in natural flood management schemes, and exploring diverse funding sources to support infrastructure resilience.

Our ‘Year 3’ work on climate change communications is looking in more detail at infrastructure resilience, and our researchers are engaging with infrastructure organisations to ascertain the level of impact on the different infrastructure sectors.

Water and Sewerage Systems

The resilience of water and sewerage systems is a major concern. The report notes that these systems are often overwhelmed during severe storms, leading to significant disruptions and environmental hazards. Investment in upgrading and maintaining these systems is deemed essential.

The report highlights the RainScape initiative by Dŵr Cymru Welsh Water (DCWW) as an example of managing surface water and reducing sewer flooding. This involves separating rainwater from the existing system, slowing down its entry into the network, and redirecting it to local rivers and watercourses. It also emphasises nature-based solutions, such as swales, porous paving, and underground storage, to manage stormwater and reduce the burden on sewer systems.

Electricity Distribution Infrastructure

Electricity distribution infrastructure is vulnerable to storm impacts. We call for more robust and resilient infrastructure to withstand extreme weather events, including the reinforcement of power lines and the development of decentralized energy systems. The report envisions the use of emerging technology and predictive data to enhance the resilience of electricity distribution infrastructure.

The establishment of a Water Commissioner and a national flood resilience strategy aims to provide centralized leadership and coordination, ensuring that electricity distribution infrastructure is integrated into broader flood resilience planning.

Transport Networks

Transport networks, including roads and railways, are frequently disrupted by flooding and landslides. The report recommends strategic planning and investment in resilient infrastructure to ensure continuity of transport services during and after storm events.

Our specific research on strategic and spatial responses recommends developing a national flood and coastal erosion resilience strategy that includes transport networks. This strategy would prioritise investment in the most at-risk areas and ensure that transport infrastructure is resilient to storm-related impacts. Integrated catchment and coastal management approaches are highlighted as crucial for protecting transport networks from flooding and storm-related impacts. This includes collaboration between various stakeholders, such as government agencies, technical experts, and communities.

Impact on Communities and Role of Community and Third Sector Organisations

The report underscores the profound impact of flooding on communities, particularly in terms of displacement, economic loss, and mental health. Community and third sector organizations play a critical role in response and recovery efforts. Their involvement in planning and decision-making processes is highlighted as vital for building local resilience and ensuring effective response strategies.

We stress the need to involve communities in decision-making processes related to flooding. This includes promoting engagement through citizen assemblies or juries, fostering mutual engagement with clear communication, and empowering communities to actively contribute to resilience efforts.

Establishing community resilience groups by 2028 is recommended. These groups would focus on building capacity, raising awareness, and developing local-scale community flood resilience plans. They would be supported by a designated funding pot and a pool of technical engineers and flood specialists.

The report also highlights the importance of collaboration between various stakeholders, including third sector organizations, to enhance flood resilience. This includes leveraging the expertise and resources of non-governmental organizations to support community-led resilience initiatives**.**

Response of Public and Private Authorities

Our report recognises public and private for their efforts in managing flood risks and responding to storm events. However, the report identifies a need for better coordination and collaboration between these entities. It suggests that a unified approach, supported by clear communication and shared responsibilities, is essential for effective flood management, with the whole framework overseen by a Water Commissioner for Wales.