Water resilience in Europe: the role of insurance

Europe is facing growing water challenges. Floods and droughts are becoming more frequent and severe, and ageing infrastructure adds further strain on communities, economies and ecosystems. Global freshwater demand could exceed supply by 40% by 2030 (World Economic Forum).

In this context, water resilience has become essential to Europe's economic, social and fiscal stability, and is reshaping priorities for governments, businesses and households alike. Indeed, fundamentally, water resilience goes beyond managing extreme events. It concerns how water moves through landscapes, including the interaction between rainfall, soils, groundwater and ecosystems, so that it is retained, absorbed and released more naturally over time.

The European Commission's Water Resilience Strategy (June 2025) reflects this reality, including the government's role to implement water prevention and resilience measures. Insurers also have a role to play in advancing water resilience. They provide financial protection after water-related events, helping households and businesses recover and avoid long-term hardship. Beyond offering property insurance solutions, insurers promote prevention and advise on resilience measures, such as risk mapping, building standards and land-use planning, often through public-private partnerships. Under the right conditions, they also invest in water infrastructure projects.

This paper examines how insurers contribute to water resilience across three areas:

- Water risk from floods and storms
- Water risk from scarcity and drought
- Water risk linked to infrastructure challenges

It also identifies what is needed to strengthen and scale their role, unlocking their full potential.

1. Water risk: floods and storms

Floods remain Europe's most frequent and costly natural disaster, affecting millions of people each year and causing substantial economic and social disruption. Insurers play a key role in helping households and businesses recover, but they can also be instrumental in helping to reduce future losses, by:

- **Providing insurance coverage** for homes, businesses and infrastructure, enabling faster recovery after flood events. Timely payouts allow communities to rebuild more quickly, reducing long-term social and economic impacts.
- **Promoting nature-based solutions**, including permeable surfaces, retention ponds and restored river corridors, by taking risk reducing measures into account in underwriting and pricing, where relevant and feasible. Nature-based solutions (NbS) work alongside engineered infrastructure by restoring natural water circulation, slowing run-off, increasing infiltration into soils and supporting groundwater recharge. By improving how water is restored and released in the landscape, regenerative hydrology approaches can reduce flood peaks while also strengthening resilience to drought. In addition, NbS deliver multiple co-benefits, including improved biodiversity, healthier soils and better water quality.
- **Supporting public authorities** with advice on preparedness, flood-risk mapping and refining building codes. They encourage preventive measures, such as elevating critical equipment, installing flood barriers and using water-resistant building materials.
- **Supporting awareness and communication campaigns** that help residents and businesses understand their exposure and take action before an event happens.

Resilience in practice – examples that work

- **Germany** – Insurers' national "Flood Check" tool lets any household assess its flood risk instantly, driving awareness and preventative action.
- **Austria** – The HORA hazard map, co-developed with insurers, gives citizens clear, country-wide flood-risk data to boost preparedness and guide safer building and planning.

- **France** – Through Mission Risques Naturels, insurers help government monitor flood zones and update risk data, thereby strengthening land-use planning and building decisions. For instance, insurers contribute to studies on flood protection barrier panels, with the objective of feeding into the ongoing standardisation process. This engagement also extends to initiatives such as the Resilient Building Awards, which aim to raise awareness of the importance of designing and constructing buildings that are adapted to natural and climatic risks – particularly floods and storms.
- **Czech Republic** – An online calculator helps individuals estimate the replacement value of their home for property insurance. By entering basic details (roof type, number of storeys, floor area, basement presence), users receive an indicative value to guide discussions with insurers or brokers. While the tool does not require flood zone information, insurers typically check this before issuing a policy.
- **The Netherlands** – The Dutch Climate Risk Portal provides a single access point to publicly available climate risk information, including information related to floods. The portal is developed by the Dutch government in close cooperation with the country's financial sector.
- **Belgium** – Property sellers must now disclose flood risk up front, a transparency measure supported by insurers that steers investment towards safer, more resilient locations.
- **Spain** – Insurers share flood risk data with local water authorities, helping to improve risk assessments and inform investment prioritisation for flood protection and climate-resilient infrastructure.

Key considerations

- Insurance is key for recovery, but it cannot create resilience on its own. True resilience starts long before a claim is made and depends on everyone in the chain, starting with policymakers and planners to builders, businesses and communities. If a building is constructed in a flood zone without flood-resistant design or elevation measures, in many cases, it will be extremely difficult to insure. Insurers cannot control these decisions, but are directly affected by these, as insurers' ability to provide coverage relies on robust prevention and intervention by others. Insurance is the last layer of protection, not the first.
- Effective resilience requires a "triple protection" approach: prevention, intervention and insurance. Prevention and intervention are the first lines of defence, reducing risk and limiting the impact of disasters. Insurance, in its traditional role of risk transfer, steps in when these measures are overwhelmed, providing financial support to help communities recover. Strong prevention and intervention are key.
- All stakeholders, individuals, businesses and local authorities need to be risk-aware and consider risks in their decisions. Access to clear, actionable information is crucial, enabling people and organisations to make informed choices about where to live, invest and build.
- Much of the adaptation agenda depends on local choices, but action at a higher level, such as the EU level, can help, for example, by promoting best practices, supporting data sharing and aligning policy frameworks, where relevant.

2. Water risks: scarcity and drought

Periods of water scarcity and drought are becoming more frequent and severe across Europe, affecting households, agriculture, energy production and ecosystems. Prolonged dry spells can increase flood risk, but also disrupt supply, damage infrastructure and reduce the availability of water for critical economic activities. While droughts unfold differently from sudden-onset disasters, their economic and social impacts can be just as far-reaching. Insurers contribute by:

- **Raising awareness of drought exposure** among households, farmers and businesses through risk assessments, early-warning tools and prevention campaigns.
- **Developing tailored insurance solutions** that address drought and water-scarcity risks, such as agricultural drought coverage and, in some cases, parametric or business-interruption solutions tied to water shortages. These offerings are not yet widespread.
- **Supporting public authorities through public-private partnerships** by sharing climate-risk insights and contributing to drought-risk mapping, which helps water managers, municipalities and farmers plan more effectively.
- **Promoting and incentivising prevention**, including water-efficient irrigation, soil moisture monitoring and on-site water storage. This includes supporting measures that improve soil water retention and infiltration, which can help mitigate both drought impacts, such as drought related subsidence, by stabilising moisture levels in the ground.

Resilience in practice – examples that work

- **France** – France Assureurs, with Caisse Centrale de Réassurance (CCR) and Mission Risques Naturels (MRN), launched Initiative Sécheresse, a five year programme testing and evaluating prevention and innovative repair solutions on around 300 homes exposed to clay shrink swell. The aim is to identify scalable, sustainable ways to protect properties and reduce losses before claims occur. MRN also contributes to the mapping of clay shrinkage-swelling risks.
- **Spain** – Agricultural insurers under the Agroseguro pool provide multi-peril crop insurance including drought coverage. This system stabilises farm income during dry years and is supported by public subsidies, making it a leading model in Europe.
- **Italy** – Italian insurers collaborate with regional agricultural authorities to expand uptake of drought and heat-stress insurance products. They also promote risk-prevention measures like soil-moisture monitoring and water-efficient irrigation through advisory services.

Key considerations

- Not all drought-related losses can be covered by insurance, especially those resulting from government-imposed water restrictions or chronic, unmanaged risks. It is important to consider where insurance can add value, and where other policy tools or investments are needed. Consideration should be given to how prevention, public support and insurance can work together to close protection gaps without creating long-term dependencies.
- The effectiveness and availability of insurance depend on strong prevention and risk management measures. Without widespread adoption of water-saving practices and infrastructure, the risk may become too great for insurance to remain viable or affordable. In this regard, it is also key to increase certainty around water allocation rules, drought contingency plans and local adaptation strategies. Clear, predictable frameworks are essential for all stakeholders.
- The ability of individuals, businesses and authorities to make informed decisions about drought risk depends on access to timely, reliable information and guidance. Gaps in awareness or information can leave communities exposed and limit the effectiveness of insurance.
- As drought-driven subsidence becomes more common, it is important to consider how combining insurer claims data with geotechnical and satellite monitoring can improve the understanding of where prevention and repair / retrofitting efforts will have the greatest impact. Pilots like France's Initiative Sécheresse show the value of coordinated approaches; scaling up will require ongoing collaboration and investment from all stakeholders.

3. Water risk: infrastructure challenges

Europe's water infrastructure – drinking-water systems, stormwater networks, wastewater treatment, levees and canals – is increasingly strained by the impacts of climate change, urban growth and decades of underinvestment. Ageing systems leak significant volumes of water, stormwater networks struggle with intense rainfall and outdated designs leave communities vulnerable to both floods and supply shortfalls.

Modernising infrastructure and implementing adaptation measures are primarily the responsibility of public authorities. Importantly, assets like dykes or wetlands do not usually generate a return on investment. As a result, insurers can only invest directly when there is a realistic chance of earning a return. Beyond investment, insurers play a vital supporting role in strengthening water resilience and infrastructure by:

- **Providing risk insights** that help cities, utilities and engineers identify vulnerabilities in drainage networks, treatment facilities and water-supply systems.
- **Advising on resilient design standards** and offering **risk-modelling expertise through targeted partnerships**, helping stakeholders understand how future rainfall patterns, drought cycles and extreme-weather trends may affect infrastructure and service continuity.
- **Promoting nature-based solutions integrated into infrastructure planning**, such as permeable pavements to reduce runoff, retention ponds to manage peak flows and restored river corridors to relieve pressure on levees and canals. In this sense, soils and vegetation can operate as critical natural infrastructure for climate resilience by regulating how water is absorbed, stored and released across urban and rural systems and in turn by reducing pressure on built infrastructure.
- These measures help in reducing pressure on stormwater networks, lowering flood risk and improving groundwater recharge, while also delivering environmental co-benefits like biodiversity and water quality improvements.

Resilience in practice – examples that work

- Insurers are partnering with technology providers to deploy Internet of Things(IoT)-based water leak sensors that protect building infrastructure and reduce claims. These solutions detect micro-leaks early, preventing costly water damage and supporting proactive maintenance. They are increasingly offered as part of insurance packages to encourage risk prevention.
- In one European country, insurers promote green roofs as part of climate adaptation strategies. Through national campaigns and collective purchasing schemes, they incentivise homeowners to install vegetated roofs that absorb rainwater and reduce runoff. Some insurers also offer "climate-adaptive mortgages", allowing customers to access additional lending within their mortgage to fund such climate adaptation measures, which is already common practice for sustainability measures (eg energy efficiency). These roofs, for example, act as distributed retention systems, easing pressure on stormwater networks and combined sewers during heavy rainfall. Insurers also participate in EU-funded projects testing insurance-based incentives for nature-based solutions in collaboration with municipalities and water authorities.
- In one European city, insurers participate in adaptation dialogues where cloudburst (i.e. sudden, intense rainfall over a small area, which can cause flash floods and landslides) plans integrate green infrastructure, retention basins and upgraded sewers. These projects combine surface-level solutions with underground tunnels to manage extreme rainfall and protect urban infrastructure.

Key considerations

- In addition to their roles as risk managers and partners in resilience, insurers can also contribute as long-term investors in water infrastructure. However, direct investment usually requires certain conditions to be met to happen at scale:
  - Sufficient scale, typically €50–100 million per project (often via "club deals", investments whereby a group of investors pools its assets and makes the acquisition collectively).
  - Long maturities, normally 10–40 years, aligned with asset life.
  - Attractive and predictable returns, consistent with insurers' risk appetite.
  - Strong credit quality, preferably investment grade or supported by guarantees.
- Effective investment in resilience requires that the objectives of public authorities, utilities and investors are aligned. This includes agreeing on risk-sharing arrangements, project priorities and long-term maintenance commitments.
- While much of the planning and implementation happens at local level, regional, European and international initiatives can help by promoting best practices, supporting capacity building and facilitating access to finance for resilience projects.
- New approaches, such as nature-based solutions, smart infrastructure and public-private partnerships, offer promising ways to boost investment in water resilience.

4. Future outlook: the role of insurers in strengthening water resilience

Water risks in Europe are becoming more complex, more interconnected and, in some regions, more systemic. The challenge ahead is therefore twofold: responding to more severe and frequent losses, and anticipating how the underlying risk landscape may evolve under different climate and hydrological scenarios to better reduce vulnerabilities. This requires adjusting policy, planning and financial frameworks so that they are not only reactive but geared towards long-term resilience.

In addition, recent scientific warnings about the weakening of the Atlantic Meridional Overturning Circulation (AMOC) have underlined how profoundly Europe's climate and hydrological systems could be affected, from changes in storm tracks to changes in rainfall patterns and river flows. These changes would add further pressure on already stressed water systems, creating new uncertainties for households, businesses and public authorities.

Against this backdrop, the role of insurers is evolving:

- Insurance has traditionally focused on recovery and post-event compensation. Looking ahead, and in line with the key role of insurers in advising policyholders and public authorities, even greater emphasis will be placed on the insurance sector's advisory role in anticipation and risk reduction. This implies new collaborations between insurers, public authorities, urban planners, water managers and financial institutions to identify where preventive investment delivers the greatest long-term benefit and where inaction would prove most costly.

- The insurance sector already combines aggregated hazard and loss data with public hazard maps and forward-looking climate scenarios to identify priority areas for intervention, including regions where affordability pressures may emerge, as well as potential "water-risk hotspots". Emerging technologies, including machine learning and AI, are expected to further strengthen this analytical capacity by helping detect patterns in risk accumulation and anticipate cascading impacts across sectors. This may include other collaborations with insurtechs.

- There is potential to further develop innovative solutions, including parametric insurance, blended public-private schemes, resilience-linked mortgage lending or insurance-based incentives for adaptation measures. Greater use of digital tools, satellite monitoring and AI-supported modelling can enhance early warning systems, strengthen prevention advice and offer possibilities for a more granular risk assessment. Insurers may therefore benefit from satellite data, even though at this point in time such data is not always readily usable and typically require substantial processing and adaptation before they can be effectively integrated into applications such as risk models.

- As institutional investors, insurers are also looking into playing a stronger role in financing resilient water infrastructure, where projects offer sufficient scale, predictable returns and robust risk-sharing frameworks.

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May 2026

insurance europe

www.insuranceeurope.eu

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