

FUTURE-PROOFING EUROPE'S WATER SYSTEMS: FROM VISION TO INVESTMENT

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Future-proofing Europe's water systems: From vision to investment

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ABOUT THE EIB EVENT

The event that led to this paper was called “Future-proofing Europe’s water systems.” Part of the EIB Institute’s Foresight Series, it brought together leading practitioners, experts, policymakers and colleagues from the European Investment Bank (EIB) to discuss how investments can best contribute to fighting water scarcity, floods and droughts. That was in September 2025. One year and many extreme weather events later, the topic has only become more relevant.

How do we translate ambitious visions into actionable investments?

The event wanted to identify concrete ways to finance the EU Water Resilience Strategy and strengthen water security globally, aiming to inspire a global exchange on society-oriented, systemic solutions that mobilise capital and leverage public-private and cross-sector collaboration early in the investment cycle.

We began from the hypothesis that achieving this goal requires new approaches to originating projects, structuring partnerships and mobilising capital to deliver systemic resilience and society-oriented outcomes for current and future generations. While financial viability and sustainability remained central, the process invited participants to rethink investment origination, strategic procurement and partnerships across the entire (infrastructure) investment cycle, starting with strategic planning. This approach proved effective in revealing deeper leverage points beyond purely financial considerations.

“It’s not just about blending finance; we must also blend skills and aim for an integrated systems-thinking approach to delivery. If we want to attract long-term investors, we need clarity of purpose, not only of returns.”

Thierry Deau, CEO of Meridiam

By exploring emerging trends, such as society-oriented investment planning, new institutional approaches, co-funding strategies and multipurpose infrastructure, the event created a space for candid dialogue, mutual learning and knowledge sharing, moving beyond the traditional public-private divide that often limits water finance discussions. Participants exchanged insights across sectors and regions, breaking down silos to co-create systems that deliver resilient, multifunctional outcomes, while identifying crucial dilemmas that must be confronted in collaboration with other sectors and a wider range of economic players to accelerate progress.

This report was prepared with the support of the EIB Institute and the EIB’s water and climate teams, based on original research, event design and the synthesis of insights from participants, facilitators and EIB colleagues. The event was curated and co-moderated by Mónica A. Altamirano (Founder of Altamira Regenerative Finance), in close collaboration with the EIB’s water and climate teams. Tom Cummings, Chair of B Lab Europe and Strategic Advisor to ALTAMIRA Regenerative Finance, brought decades of experience in strategic facilitation, systems thinking and board leadership, enriching the event’s design and moderation and helping cultivate the conditions for meaningful dialogue across diverse perspectives.

The discussion provided the EIB with foresight on market directions, innovations and cutting-edge approaches, insights that are particularly timely following the introduction of the EIB's €15 billion [Water Resilience Programme for 2025–2027](#), which represents a 50% increase in EIB's lending volume for water-related investment and is expected to mobilise €30-40 billion in total investment over three years.

EXECUTIVE SUMMARY

Europe's water systems are under increasing stress driven by climate change, biodiversity loss, ageing infrastructure and growing competition for water across agriculture, energy, industry and cities. Rising damages from droughts and floods threaten human welfare. Nearly 70% of climate impact is water-related, and close to 15% of euro-area economic output is already exposed to water scarcity risks. These pressures are no longer in the future. They are here now and they are material, systemic and accelerating. Addressing these pressures is therefore not only important from an environmental or technical perspective, but also from a strategic, economic and institutional one. Moreover, preventing pollution and degradation of freshwater systems is more cost-effective than cleaning up water bodies later, reinforcing the economic case for early intervention.

Yet, water management and investment largely remain focused on individual economic sectors. They are oriented towards narrowly defined objectives rather than a shared mission to maximise the overall benefit across public and private demands. Current planning, governance and investments don't reflect the systemic nature of water, particularly when addressing long-term resilience objectives that go beyond individual sectors. Instead, they reinforce fragmentation, short-term goals and the adoption of solutions to very specific and narrowly defined problems. The result is persistent underinvestment, misallocated capital and missed opportunities for cost-effective solutions that offer a broader set of benefits.

This need for change is reflected in the Global Commission on the Economics of Water's call to "[Value the Hydrological Cycle as a Global Common Good](#)," and in the European Union's [water resilience strategy](#), which aim to restore and protect the water cycle as the basis for sustainable water supply across sectors.

This white paper argues that while the scale of investment required is substantial, the primary constraint is not a lack of finance. Rather, the central challenge lies in how investments are originated, coordinated, funded and financed¹, particularly resilience investments that generate public benefits beyond the usual services people pay for through water tariffs.

Drawing on insights from a strategic foresight event convened by the European Investment Bank (EIB) Institute on 25 September 2025, this white paper identifies emerging trends that point to a shift towards a new investment approach. Anchored in the EU Water Resilience Strategy adopted in June 2025 and informed by perspectives from around the globe, the discussions explored systemic solutions that embed public-private and cross-sector collaboration early in the investment cycle. This collaboration ranges from society-oriented (mission-driven) planning that takes into account the systemic nature of all relevant local factors (place-based approaches) to better institutional coordination to innovative co-funding arrangements and a variety of financing models as well as infrastructure improving water resilience in different ways and delivering a broad set of benefits. The findings presented in this white paper are particularly

¹ Financing vs. funding: when assessing the impact of a project on government accounts, particularly when it is a public-private partnership (PPP), it is essential to distinguish between these two concepts. Funding refers to the ultimate source of repayment for the investment (capital expenditure) and operating expenditures, such as how the private partner is compensated over time. Public infrastructure is ultimately funded through taxes, user tariffs or transfers. Financing, by contrast, refers to the upfront mobilisation of capital required to design, construct and initiate operations, typically through debt and/or equity instruments, provided by public or private entities. Financing determines who provides the capital upfront and under what terms; funding determines who ultimately pays and through which revenue streams.

timely in light of the EIB's €15 billion Water Resilience Programme for 2025-2027. This programme marks a 50% increase in water-related lending and is expected to mobilise €30 billion to €40 billion in total investment.

A. Investment origination and society-oriented investment planning

Participants highlighted that many of the most promising innovations are emerging in the phase before individual projects are implemented, at the level of investment origination, governance and coordination. Aligning projects with policy objectives, institutional arrangements and funding strategies can be established early on. These include society-oriented investment planning that takes into account the system of all relevant factors for an entire river basin, that is the whole area draining into a major river system and all its tributaries. They also include public-private collaboration building on complementary strengths before individual projects are implemented, adaptive governance and decision-support tools, and funding approaches that extend beyond user tariffs.

Concrete examples illustrate both the potential and the limits of current practice. Transition laboratories such as the Wye-Usk Lab, where public and private organisations in the catchment areas of the rivers Wye and Usk across Wales and England collectively work towards shared goals, demonstrate how coordinated, society-oriented planning can reduce costs by up to 30% while delivering ecological and social benefits (North Star Transition, 2025). Experiences from Chile show how a stable and credible regulatory framework can be established and sustained over time to enable public-private partnerships that mobilise private capital at scale and deliver high levels of service coverage. This applies not only to the urban sanitation sector – covering drinking water supply, sewerage and wastewater treatment – but also more broadly to water sector legislation, including the legal framework governing water resources, as well as to desalination and water reuse. Co-development models such as the TURF (The Urban Resilience Fund) approach developed by Meridiam further illustrate how public finance can be used strategically to de-risk investment and crowd in private investors.

At the same time, these experiences reveal the limits of traditional public-private partnerships on individual projects at a time when climate stress increases. Delivering water resilience requires collaboration at an earlier stage, beyond procurement and financial close. Collaboration needs to develop into integrated, territorially grounded planning and investment origination, where public authorities provide long-term vision, policy coherence² (Global Environment Facility, 2023), finance and public funding to get things going, while private organisations contribute technical expertise, delivery capacity and innovation.

B. Funding water resilience

Funding frameworks for water resilience still struggle to reconcile affordability, justice and financial sustainability. This is especially true when resilience investments deliver public goods such as flood protection, ecosystem restoration or biodiversity benefits that cannot be funded through water

² The Global Environment Facility defines policy coherence as an approach to integrate environmental objectives into domestic policymaking by fostering synergies, maximising benefits and managing trade-offs across economic, social and environmental policy areas.

tariffs alone. While tariffs remain effective for funding urban water services, many resilience functions go beyond individual users and utilities and therefore require different funding methods³.

This paper highlights a growing set of funding and revenue-generation approaches that can help address this gap, including contributions by companies (corporate water stewardship), the public sector taking back part of the increase in land value resulting from public investment (land value capture) and other fiscal instruments as well as cross-sector revenue models that span water, energy, waste and digital infrastructure. Corporate and philanthropic capital can get the ball rolling by providing flexible early-stage funding for planning and design, de-risking projects and crowding in subsequent public and private investment. Yet despite their promise, these approaches remain the exception rather than the norm. The approaches are constrained by fragmented regulation, short-term budget cycles, unclear fiscal rules, water's role as a public good and common resource as well as limited institutional capacity.

Overall, the core financial challenge is not a lack of instruments, but the absence of integrated frameworks that align funding sources, financing structures and investment origination with shared objectives taking into account all relevant local factors. Too often, existing revenue models (funding) and financing mechanisms determine what is considered feasible or bankable, thereby shaping investment priorities, rather than being designed around the real systemic needs and fit-for-purpose solutions required to achieve long-term water resilience in a financially sustainable way.

C. Planning tools, governance and trust

Investment planning and decision-making for water resilience remain overly shaped by financial and sector-specific considerations, favouring short-term efficiency, large-scale centralised infrastructure and project-by-project optimisation. This has held back **decentralised, nature-based and context-specific solutions**. Institutional silos continue to separate water from land-use, agriculture, energy and infrastructure planning, despite existing mandates for integrated water management across a river catchment, meaning for the entire area that drains into a river.

Across discussions, participants pointed to the need for a systemic shift, from optimising individual projects to designing society-oriented and comprehensive investment structures for whole river catchments. Achieving this requires (i) public-private collaboration in planning and investment origination; (ii) regulatory frameworks that move beyond narrow compliance towards performance-based oversight across economic sectors; and (iii) decision-support systems that combine economic valuation, participatory planning and digital tools. In most catchments, decision-making is complex and trade-offs are unavoidable. In these situations, decision-makers need to be able to compare alternative investment solutions, including decentralised and nature-based solutions alongside conventional grey infrastructure. Trusted sources need to contribute facts and information so that deliberation can be transparent and everyone understands the risks, benefits and distributional impacts of different solutions.

Across all these challenges, trust is key. Even well-designed planning tools and governance frameworks can only be effective when there are credible institutions that have regulatory and enforcement power over key public or private organisations, evidence-based approaches in situations of uncertainty and people who make collaboration actually work. Trust determines whether governance is credible, people work together and public and private organisations

³ Aqua Publica Europea, 2025; Fédération de l'Industrie Européenne de la Construction (FIEC), 2025.

contribute resources and share risks. In short: scaling water resilience investments won't be possible without trust.

D. The way forward

The EIB Institute's water foresight event underscored a broadly shared conclusion: achieving water resilience requires a systemic shift in how water is planned, governed, funded and financed – meaning structural reforms. Since those kinds of reforms take time and water and climate risks are increasingly urgent, there can be no delay.

Progress depends on strengthening organisations that can weave fragmented initiatives into coherent, investable plans for water resilience. This paper therefore points to a set of complementary roles different organisations can play, depending on mandate and context. These roles include (i) enabling coordination and investment origination oriented towards benefits for people and communities; (ii) designing integrated funding frameworks and blended finance systems, including revenue-generation mechanisms; (iii) facilitating regulatory and institutional coherence across sectors; and (iv) acting as trusted sources of knowledge, legitimacy and partnerships.

To achieve water resilience, decision-making and investment origination must go beyond individual economic sectors and aim at a comprehensive set of benefits, including clearly defined benefits for people and communities. Decision-making and investment origination must also recognise the double nature of water as a public good and an economic input. While governments are responsible for managing the water cycle and ensuring basic water resilience, much of the economic value from water use in agriculture, energy, industry and cities lies with private organisations. Bringing the two sides together requires governance and planning frameworks that align public water management with private delivery capacity and innovation from the earliest stages of investment planning.

Connecting foresight and finance, this white paper seeks to support decision-makers in translating long-term ambitions for water resilience into tangible investments. While centred on Europe's Water Resilience Challenge, the insights draw on experiences from other regions and contribute to a broader international dialogue on mobilising investment for water security, climate adaptation and a just transition at a time of limited public resources and increasing systemic risk. **The future of Europe's water resilience will depend on our ability to rethink collective action and investment planning to support economic resilience and social cohesion.**

1 INTRODUCTION

This white paper presents the insights and recommendations resulting from a strategic foresight event on water, convened by the EIB Institute on 25 September 2025, in Luxembourg, as part of the Institute's foresight series, titled "Future-proofing Europe's water systems: From vision to investment." The one-day event brought together a carefully selected group of leaders working at the intersection of climate, water, nature and infrastructure finance to reflect on how to translate Europe's growing water resilience ambitions into action. Further details on the event are provided [at the beginning of this paper](#), the list of participants is included in [Annex A](#).

The purpose of this white paper is to outline the insights, forward-looking perspectives and practical recommendations that have emerged from this dialogue. It aims to inform the implementation of the EIB's €15 billion Water Resilience Programme (2025-2027) and to strengthen its collaboration with the European Commission, particularly in shaping the forthcoming project preparation facility on water and climate. More broadly, the paper seeks to contribute to ongoing efforts to mobilise the scale and type of investment required to achieve water security and climate resilience across Europe and beyond.

The document also explains the foresight methodology that underpinned the event. In an environment where people were able and willing to really listen to each other, there was a candid exchange of experiences and views, helping participants to look at challenges through the eyes of other interested parties, identify promising innovations and develop a shared understanding of investments and actions that cut across institutional and sectoral boundaries. In this sense, the white paper reflects both the substance of the discussions and the collective sense-making that unfolded during the event.

To guide readers through this synthesis, the paper is organised into four main sections:

- **The water resilience challenge**, which sets out the strategic context and problem, placing the foresight dialogue within global and European policy and economic developments and explaining why systemic investment in water resilience is urgently needed.
- **Emerging trends and innovations**, which summarises the most significant shifts identified by three breakout groups that explored complementary dimensions of the challenge, including new approaches to investment origination, institutional reforms and decision-making support tools and revenue mechanisms.
- **Key difficulties and dilemmas**, which examines the structural barriers constraining investments in water resilience and cross-sector collaboration, as well as the critical trade-offs that must be addressed – often jointly with other sectors and economic players.
- **The way forward**, which outlines the strategic foresight implications for Europe's water future and proposes areas for continued exploration and collaboration. This section also presents actionable recommendations for the EIB Group, the European Commission and partners, framed around four complementary roles and institutional capabilities, highlighting potential levers to strengthen alignment, capacity and funding at scale.

Taken together, these sections aim to connect foresight and finance, helping decision-makers translate long-term water resilience visions into tangible, investable plans.

2 THE WATER RESILIENCE CHALLENGE

Water's multidimensional nature – and its role as a connector across economic sectors, ecosystems and social systems – places water resilience at the centre of today's interconnected crises. Addressing this challenge therefore requires approaches that operate across multiple dimensions.

2.1 Water at the heart of several global crises

Water sits at the heart of today's set of interconnected crises. Scientists have identified nine processes that are critical for the stability of our planet, water being one of them. These factors can withstand a certain amount of human interference, but only to a point. Once certain thresholds are crossed, it becomes a threat to the earth's stability. With freshwater, we are already beyond those thresholds (Richardson et al., 2023). As recognised in the European Water Resilience Strategy, water is essential for life, agriculture and industry, yet its reliability is increasingly undermined by climate change and rising demand. Nearly 70% of climate change affects are experienced through the water cycle, in the form of droughts, floods and storms, making water insecurity a defining risk of this century (World Bank, 2016).

In Europe, the crisis is becoming increasingly tangible. The continent is warming faster than any other, with southern regions experiencing prolonged drought and increasing desertification and northern areas suffering from increasingly intense rainfall and flooding (European Environment Agency, 2024). Globally, the hydrological cycle shows signs of systemic stress: 2024 marked the fifth consecutive year of declining lake and reservoir storage, alongside extreme soil dryness in regions such as South America and Southern Africa. These trends are being reinforced by climate change, deforestation and biodiversity loss, which together are driving systemic shifts in rainfall patterns that feed all freshwater systems (Global Commission on the Economics of Water, 2023). All this reflects deeper structural failures in how cities are planned, land is managed and agricultural value chains are organised.

The human and economic toll has already been significant. In 2024 alone, water-related disasters displaced over 40 million people and claimed more than 8 700 lives (Van Dijk et al., 2025). Beyond humanitarian impacts, water insecurity constitutes a systemic financial risk. Left unchecked, it could reduce global gross domestic product (GDP) by 8% or more by 2050 and undermine financial stability (Global Commission on the Economics of Water, 2023).

Europe is not immune. ECB research indicates that nearly 15% of eurozone economic output is exposed to water scarcity risks – particularly in agriculture, manufacturing, mining and construction – representing over €1.3 trillion in bank loan exposure (Ceglar et al., 2025). Over time, water shortages may also amplify commodity price volatility, contribute to food and water price inflation and heighten macroeconomic instability. Against this backdrop, inaction or even hesitation would significantly increase economic, social and environmental risks. It is becoming increasingly imperative to raise investment in water security in the coming decade.

2.2 The global water access and infrastructure investment gap

Despite water's foundational role in human development, access to water and sanitation remains far from universal. As of 2022, 2.2 billion people lacked access to safely managed drinking water, 3.5 billion lacked safely managed sanitation services (United Nations, 2024). This gap signals a profound investment failure.

Globally, an annual financial shortfall of \$131 to \$141 billion must be closed to achieve the United Nations' Sustainable Development Goal (SDG) 6: clean water and sanitation. Yet, water infrastructure spending in developing countries remains at just 0.5% of GDP, with 78% of water-sector investment coming from public sources. Even this limited funding is not fully utilised, with average budget execution rates of only 72% (Joseph et al., 2024).

Europe faces a similarly daunting challenge. The European Commission estimates that at least €23 billion per year is required merely to implement existing water directives, including basic repairs and upgrades to ageing infrastructure (European Commission, 2025). Closing water resilience and SDG 6 gaps is therefore not only a matter of mobilising additional resources, but also of making existing investments more effective and ensuring that investments in other economic and infrastructure sectors contribute coherently to shared water resilience objectives. The next Multiannual Financial Framework (MFF), with a budget of €1.763 trillion for the period 2028-2034, is a great opportunity to close these gaps, leveraging, among others, the new European Fund for economic, social and territorial cohesion, agriculture and rural, fisheries and maritime, prosperity and security that integrates 14 existing EU programmes including major parts of the Cohesion Policy and the European Competitiveness Fund (ECF) (Water Europe, 2025).

2.3 Misaligned systems and the case for a new investment approach

A deeper examination of the water resilience challenge points to systemic failures in how water resources and infrastructure are planned, governed and financed. Despite a comprehensive EU legal framework, implementation gaps and capacity constraints continue to put pressure on ecosystems, intensify pollution and increase tensions among water users while institutional capacity, particularly at sub-national level, remains insufficient.

Siloed planning and investment approaches create blind spots. Infrastructure investments affecting multiple economic sectors – such as hydropower, irrigation, desalination or bioenergy – are frequently over- or undervalued when interdependencies and trade-offs are ignored, leading to capital risk being misallocated, and value capital being systematically misjudged.

There is also a risk, as highlighted by Mazzucato (2025), that concessional water finance repeats the shortcomings of climate finance. That is overemphasising the de-risking of private capital while neglecting public benefits or treating water as a narrow technical issue rather than a systemic one. Addressing water resilience therefore requires a society-oriented investment approach, one that defines shared goals for people and communities – such as ensuring universal access to safe water – and aligns governance, finance and delivery mechanisms accordingly.

3 EUROPE AT A CROSSROADS: STRATEGIC IMPERATIVES

Europe faces mounting climate, ecological and infrastructure pressures. Catastrophic floods, prolonged droughts, rampant wildfires and biodiversity loss are already imposing significant social and economic costs (European Environment Agency, 2024). In the Danube basin, for example, 80% of floodplains have been lost, undermining natural resilience, while only 16% of rivers remain in a near-natural state. Adopted in June 2025, the EU Water Resilience Strategy is Europe's response to this systemic crisis.

The strategy's objectives – to restore the water cycle, secure clean and affordable water for all and build a competitive, water-smart economy – can only be achieved through deep alignment between governance and investment frameworks. This imperative is reinforced by the European Green Deal and the Competitiveness Compass, both of which emphasise coordinated public and private action.

The strategy sets out flagship actions across five enabling areas: governance and implementation; investment and advisory support, including the EIB's €15 billion Water Resilience Programme (2025–2027); digitalisation; research and innovation; and security and preparedness. At the global level, it also strengthens the European Union's role in advancing water resilience through international partnerships, notably under the Global Gateway.

However, as repeatedly underscored during the foresight discussions, implementation hinges on policy and institutional alignment. Water remains “everywhere and nowhere” in policy, fragmented across ministries, sectors and funding streams. Operationalising the strategy will require institutional coherence, longer planning horizons and joint funding and financing frameworks that bridge EU funds, national budgets and private capital, aligning incentives at the programme level where clear objectives for society are defined. Without this alignment and an explicit effort to link regulatory and investment ecosystems, the EU Water Resilience Strategy may not fully translate into tangible outcomes.

While water is increasingly recognised as a strategic risk, it has rarely been treated as an economic and investment priority. Mobilising private investment will require careful sequencing, clarifying where public finance must lead and where private capital can follow without creating perverse incentives. This, in turn, demands a fundamental rethinking of how investments are originated, planned and financed at national and local levels.

It also calls for new institutional capabilities, such as the ability to build shared narratives, sustain trust among users, taxpayers, polluters and beneficiaries and reinforce the social contracts that underpin people's willingness to pay and to change behaviour. Trust, ultimately, is the foundation for mobilising the scale of collective investment required.

In summary, advancing water resilience – both in Europe and globally – will require rethinking investment origination, mobilising private capital in alignment with public purpose and forging new models of collaboration across different economic sectors.

The following section presents emerging trends and pioneering approaches identified during the foresight dialogue that point towards such a transformation.

4 EMERGING TRENDS AND INNOVATIONS

The foresight dialogue identified trends and innovations that point towards new ways of originating, structuring and delivering investments for water resilience. Rather than offering prescriptive solutions, it highlights signs of change – new practices, institutional arrangements and tools that respond to the systemic nature of water challenges and the limitations of existing investment approaches.

Three breakout groups focused on investment planning, decision-making, and funding and revenue mechanisms (Sections A to C below). Those groups found that many of the most promising innovations are emerging before individual projects are implemented – at the level of investment origination, governance and coordination. At that point, alignment across sectors, organisations and scales can be established early on.

4.1 Integrated, society-oriented investment planning

The central question of this breakout session was how society-oriented investment planning that takes into account all relevant local factors can improve resilience in different ways and at multiple points along the water cycle. The objective was to come up with innovations in investment origination and explore how strategic, localised approaches can turn sector-specific transactions into high-impact investments.

4.1.1 Systemic challenges identified

There is liquidity, yet the pipeline of viable, well-structured projects remains thin. In Europe and globally, project origination remains fragmented. Feasibility studies, environmental assessments and community engagement are often handled separately. Public institutions frequently lack the capacity and sustained political commitment required to take early-stage risks, thereby undermining confidence and hindering effective coordination.

4.1.2 Emerging solutions and new approaches

Participants emphasised the importance of cross-sectoral and public-private collaboration at the early stages of the investment cycle. Collective intelligence and systemic understanding can lead to innovative design, technologies and business models that enhance efficiency and resilience.

- **Transition laboratories.** They serve as neutral platforms that bring together stakeholders across economic sectors and scales to co-design solutions, align governance and mobilise finance. They are learning environments, governance mechanisms and investment pipelines all rolled into one. The Wye-Usk Transition Lab demonstrates that localised coordination can reduce costs by up to 30% while improving ecological health and community resilience.
- **Public-private co-development models.** These approaches redefine risk allocation between public and private partners in public-private partnerships (PPPs). Instead of transferring risks prematurely, within a co-development model, risk is shared dynamically in the course of the project, backed by blended instruments that absorb uncertainty early and invite private equity later (Meridiam, 2021). This dynamic risk-sharing mechanism has proven effective in energy transitions (Meridiam, 2023, 2025) and is being replicated in water infrastructure (European Investment Bank, 2023, 2024).
- **Society-oriented procurement.** Moving beyond one-off tenders, society-oriented procurement establishes long-term platforms capable of delivering a continuous pipeline of investable projects. By focusing on shared objectives for society (defined in missions, as the

experts say) – for example catchment resilience or circular⁴ water systems – procurement becomes a market-shaping tool that fosters innovation and leverages economies of scale.

- **Multiutility partnerships.** These offer a practical model for integrated, society-oriented investment in essential services. Rather than operating water, energy and waste systems through fragmented approaches, municipalities and regions are pursuing integrated partnerships that align these services within a single governance and investment framework. By coordinating planning, funding, financing and performance management across sectors, multiutility models can generate economies of scale, reduce operational inefficiencies and enable circular resource use (Giani & Kosta, 2025). Such approaches typically rely on stable, long-term contractual arrangements and performance-based regulation and may be supported by flexible lending frameworks provided by public and development finance institutions.
- **Project preparation facilities.** Project preparation facilities remain an important enabling mechanism, particularly in the water sector where they have historically been underutilised. Experiences from initiatives such as the African Water Facility show that each euro invested in preparation can unlock nearly €29 in later investment. Dedicated facilities can strengthen early-stage design, coordination and financial structures, helping projects progress from concept to implementation with greater institutional and investor confidence.

Together, these emerging models signal a transition from fragmented, project-by-project financing and procurement towards programmatic, society-oriented investment systems. They seek to align financial instruments, governance mechanisms and social legitimacy to deliver systemic impact across the water-energy-food-nature nexus.

These models also demonstrate the potential that lies in bringing together different skills, institutional capabilities and systems thinking at the level of an entire watershed, that is the whole area draining into a river. While funding is often available in the European Union, municipalities and local authorities frequently lack the capacity and alignment with national governments required to access and deploy it effectively. Society-oriented investment planning taking into account the system of relevant local factors, where investments in water infrastructure are made from a broader perspective that links environmental goals with social well-being and economic stability, can help improve deployment (Fédération de l'Industrie Européenne de la Construction (FIEC), 2025; Meridiam, 2021; North Star Transition, 2025)

4.1.3 Gaps and the right conditions

Despite progress, several barriers remain. Regulatory and budgetary cycles typically operate on three- to five-year horizons, while basin-scale transitions unfold over decades. Also, EU and national programmes sometimes prevent comprehensive projects because funding is only available for individual economic sectors, forcing project promoters to break down useful comprehensive concepts into silos again. Data and monitoring systems remain fragmented, undermining trust, while the intermediate level, where catchment coordination yields the greatest value, often lacks dedicated funding. European policy instruments tend to support either micro-level interventions (such as farm improvements or innovation pilots) or large-scale infrastructure, leaving catchment-level coordination underfunded.

Participants underscored key success factors: long-term, predictable funding; transparent governance and accountability in blended finance arrangements; and broader metrics of success

⁴ The idea behind circular (economy) concepts is to keep resources in use as long as possible to minimise waste.

that value natural, social and financial capital. They also emphasised that while digital tools can support coordination, the human processes of bringing different parties together, mediating trade-offs and sustaining collaboration remain central.

4.1.4 The way forward

Achieving water resilience will depend on society-oriented investment planning for entire river basins, taking into account all relevant local factors and enabling coordination, shared accountability and an effective collaboration between the public, private and civic sectors. While water risks and flows play out over an entire river basin, water and sanitation services are typically fragmented and distributed over different regional and municipal bodies or even individual utilities. Strategic coordination and financial alignment are best achieved through programmes that cover the whole river basin, guiding priorities, enabling cross-subsidies and structuring incentives, while project management and delivery remain anchored in legally mandated administrative entities.

Strategic procurement, well-sequenced blended finance and coordinated investment pipelines play a central role in translating such missions tailored to individual river basins into larger systemic solutions. A forward-looking approach to investment origination supports portfolio-based planning at the basin level, facilitating financial aggregation, subsidy design and risk pooling, while competent local authorities and service providers will take care of execution. This way innovations, including decentralised solutions, smaller infrastructure assets and nature-based solutions, can be applied at scale, while prioritising the optimisation of existing assets over new development. Delivering such approaches depends on institutional arrangements that ensure continuity, coherence and trust across projects and funding cycles.

This shift reflects a move from asset-by-asset investments towards long-term systemic transformation, embedding resilience, adaptability and inclusiveness into investment systems.

4.2 Planning tools and institutional approaches for smarter decision-making

This breakout group explored how emerging tools, institutional approaches and governance frameworks can strengthen public and private decision-making for water and climate resilience investments. The focus was on identifying practical ways to align political priorities, investor requirements and outcomes through evidence-based, society-oriented planning.

4.2.1 Key insights and systemic challenges

Participants agreed that governance models and institutional arrangements that have delivered efficiency and service coverage in the past, are increasingly ill-suited for today's climate, social and infrastructure challenges. They emphasised that investment decisions should not be guided by finance alone – which can bias project selection – but by shared missions, evidence and strategic priorities. Experiences from Chile and Denmark highlighted the importance of credible regulation, adaptive governance, inclusive participation and public-private collaboration before individual projects are implemented.

Several systemic challenges were identified. Regulatory and investment frameworks remain misaligned, prioritising short-term efficiency and cost reduction over resilience and outcomes with a broader set of benefits. Institutional fragmentation and sectoral silos continue to undermine coordination across economic sectors, despite mandates for management on the level of a whole river catchment. Participants also noted, however, that while catchment- or basin-level management provides hydrological coherence, political authority and service delivery typically lies

with municipal or regional institutions or with individual utilities. As a result, basin-scale approaches are often more effective for strategic coordination and financial alignment than for project management.

Decision-making still relies too much on large, centralised infrastructure models, while decentralised and context-specific solutions are often overlooked. In addition, rigid procurement and regulatory systems, limited capacity for experimentation and insufficient monitoring keep innovative approaches from being adopted and scaled, including nature-based solutions. Across these challenges, participants repeatedly highlighted a lack of trust, fact-based approaches and legitimacy.

One misalignment worth mentioning separately regards agricultural policy. As the largest water user and the primary land manager, agriculture can safeguard two essential common goods: soil and water. Yet, despite the growing recognition that water contained in soil and plants (green water) is a critical resource for a healthy water cycle and water resilience, the Common Agricultural Policy continues to stand in the way of integrated and nature-based approaches at the catchment level. The same misalignment created by institutional silos and rigid administrative boundaries has constrained the effective implementation of the Water Framework Directive. While the directive does provide a mandate for catchment-level management, the administrative units responsible for water services and land-use decisions do not always coincide with hydrological boundaries, creating problems with practical implementation.

All these barriers point to the need for a systemic shift – from optimising individual projects to designing adaptive, comprehensive and society-oriented investment systems.

4.2.2 Emerging approaches and pioneering examples

The discussion highlighted several approaches that bridge governance, finance and knowledge systems.

The Chilean experience illustrates how credible regulation and long-term public-private partnerships enabled near-universal access to water services, while recent reforms signal a shift towards territorial cohesion and integrated planning (Estevez Valencia, 2025). The lesson is that water investment cannot be separated from land-use and infrastructure planning and that collaboration must begin earlier, during strategic planning.

The Danish and Copenhagen experience underscored the limits of conventional large-scale infrastructure approaches and the value of adaptive, circular and nature-based solutions (Fratini, 2025; Fratini & Jensen, 2017). Cross-sector governance, experimentation, regulation based on lessons learned and strong community participation, supported by transparent data and digital tools, were identified as key enablers of resilient, multifunctional urban systems.

Participants also pointed to catchment-scale and/or landscape-based mechanisms and collective investment vehicles, such as landscape enterprise networks, water funds and watershed investment programmes, which enable multiple parties to co-invest in ecosystem services such as flood control, soil and water quality.

Beyond institutional models, several tools and methods were highlighted as particularly relevant:

- **Economic valuation of externalities**, which are illustrated by France's structured approaches to socioeconomic appraisal and evaluation after projects are completed;
- **Systemic and participatory planning frameworks** that enable more regenerative infrastructure investments, such as the Biodiversity and Infrastructure Synergies and

Opportunities for European Transport Networks (BISON) project and its Strategic Research and Deployment Agenda (SRDA), which is a blueprint for future infrastructure policies, research and investments across Europe (Autret, Yannick et al., 2023). It integrates biodiversity, climate and infrastructure objectives, including the role of rivers, wetlands and river corridors, through the concept of “green-blue” connectivity and considers water resilience an integral part of biodiversity-friendly infrastructure.

- **Digital platforms for project preparation and oversight**, such as [SOURCE](#), which provide common, interoperable frameworks aligned with international best practice.

Together, these examples demonstrate that resilience depends not only on financial innovation, but on institutional learning, participatory governance and decision-support systems that enable coordination and adaptation.

4.2.3 Gaps and the right conditions

Those three shifts can only be effective and durable under the right conditions. In many countries, regions and watersheds, the following conditions are only partially met:

- **Stable and predictable long-term funding** to sustain coordination, innovation and adaptive planning across governance cycles. The Netherlands is an exceptional example in which all citizens pay a water tax to water boards, and regional institutions manage water resources (van Ginneken, 2025).
- **Transparent governance and accountability** to ensure integrity and credibility in blended finance and public-private partnerships.
- **Stronger institutions**, particularly to enable basin-specific strategic coordination alongside effective project development and service delivery at the municipal and utility levels, to design, coordinate and manage investments with multiple interested parties.
- **Human engagement and relational leadership**, recognising that while digital tools can support collaboration, they cannot replace the trust, negotiation and collective understanding built through direct engagement.
- **Shared data and interoperable monitoring systems** that build trust, enable learning and reduce duplication across agencies and jurisdictions.

4.2.4 Implications for investment planning

Water resilience requires society-oriented investment planning that is tailored to each catchment area and supports adaptive governance, continuous learning and collaboration across hydrological and administrative boundaries. Participants identified three interdependent shifts that must be sequenced carefully, yet pursued in parallel, to make the transition effective and credible.

4.2.4.1 From projects to systems: Strategic and institutional transformation

Institutions, governance models and service coverage that used to be efficient are increasingly ill-suited to today’s climate, social and infrastructure challenges. This shift calls for moving beyond isolated, project-based interventions towards society-oriented, catchment-level planning that aligns multiple economic sectors and objectives. Three elements were highlighted as particularly critical.

First, **collaboration between public and private organisations at an earlier stage** must extend beyond procurement and project finance into strategic planning and investment origination, where the potential for innovation and value creation is greatest. Second, **regulatory innovation and coordination** are needed to move beyond narrow compliance towards performance-based, cross-sector oversight that rewards long-term outcomes and resilience and enables risk pooling and cost-

sharing across utilities, municipalities and economic sectors. Third, **catchment-level coordination mechanisms** – including regularly convened platforms for dialogue and conflict resolution – are essential to examine trade-offs, align interests and enable the pooling of resources and risks over time.

4.2.4.2 Adaptive management, learning and adoption of innovations

The second shift concerns adaptability in a context of profound uncertainty. Decision-making must rely on monitoring, experimentation and learning feedback loops that allow investments and policies to evolve over time (Bloemen et al., 2019; Marchau et al., 2019; Walker et al., 2001). Investment planning frameworks therefore need to embed feedback mechanisms and space for experimentation throughout the investment cycle.

Participants emphasised the importance of innovation ecosystems supported by well-designed public procurement strategies that accelerate the development and scaling of technological, financial and nature-based solutions. Portfolio-based approaches that take into account the needs of the entire water basin can strengthen existing assets while fostering decentralised and multifunctional infrastructure, combining green, grey and digital elements. In this context, regulatory sandboxes⁵ were highlighted as a useful tool to test innovations in controlled environments, enabling learning and adjustment without compromising service continuity or financial stability.

4.2.4.3 Trust, legitimacy and evidence-based governance

The third shift addresses the social and behavioural foundations of governance. Effective institutions depend on legitimacy and credibility to act across jurisdictions, sectors and diverse social groups. Building and maintaining trust requires transparency, proportional use of evidence and shared decision-making processes that recognise scientific knowledge and local experience.

Participants highlighted three considerations. First, **evidence-based decision-making under uncertainty** requires accepting that perfect information is rarely attainable; proportional standards of confidence must guide action to avoid paralysis. Second, **digitalisation can act as an enabler** – for example through catchment-level digital twins⁶ that support scenario analysis and shared understanding – but cannot replace the human processes of bringing everyone together, mediating trade-offs and building trust. Third, **balancing stability and change** remains a dilemma. While institutions must evolve to remain credible under changing climatic and social conditions, trust also depends on regulatory stability. The Chilean experience illustrates both sides of this.

Across the discussions, trust emerged as a general condition, shaping the credibility of governance, the willingness of people and organisations to collaborate and the mobilisation of public and private resources.

Taken together, these shifts point towards governance models that move beyond sector-based efficiency towards integrated, multifunctional and trust-based systems capable of aligning public and private parties while balancing human, economic and ecosystem needs.

4.3 Innovative funding and revenue generation, multipurpose investing

This third breakout group examined how innovative funding and revenue mechanisms can help close the funding gap for water resilience and climate adaptation. Participants explored ways to create

⁵ A regulatory sandbox allows for new approaches to be tested in a live environment with relaxed regulatory requirements. This tool lets both innovators and regulators experiment and learn.

⁶ A digital twin is a virtual model of a real-world object, approach or process.

greater value with limited resources – through co-benefits, investments aimed at a broader set of benefits and mechanisms to enhance willingness to pay – focusing on how financial, institutional and regulatory innovations can better align incentives among interested parties from the public, private and community sectors.

4.3.1 Key insights and systemic challenges

Participants discussed a central dilemma. While water services are expected to be financially self-sufficient, many resilience functions increasingly assigned to water utilities, such as flood protection, biodiversity restoration and ecosystem health, generate benefits that are essentially public goods. These benefits extend beyond traditional utility services and cannot be financed through user tariffs alone (Aqua Publica Europea, 2025; Fédération de l'Industrie Européenne de la Construction (FIEC), 2025). They require fiscal instruments and new governance arrangements. The distinction between water services and water resilience investments adds complexity and calls for new approaches to funding and coordination.

Several recurring challenges were highlighted. **Regulatory frameworks** often prevent utilities from earning or reinvesting non-tariff revenues, making it harder for them to innovate and diversify their funding. **Tariff reforms remain politically sensitive**, requiring transparent social tariffs and redistributive mechanisms to balance affordability and financial sustainability. **Institutional fragmentation** further limits the integration of public, corporate and insurance-based contributions into coherent funding mechanisms, while many entities lack the administrative capacity to manage diversified or blended funding streams.

Overall, participants agreed that innovation in funding models must be matched by institutional and regulatory innovation to deliver long-term, inclusive and financially viable solutions.

4.3.2 Emerging approaches and pioneering examples

Participants highlighted several promising approaches to diversify and align funding for resilience.

4.3.2.1 Corporate water stewardship, blended and catalytic co-funding

Corporate water stewardship initiatives provide flexible, early-stage capital for water resilience projects at the river catchment level, typically in grant-like or off-balance-sheet forms. These resources can finance planning, engineering and design, helping to de-risk projects and catalyse subsequent public or private investment. Rather than seeking financial returns, companies engage to align corporate targets with public strategies and demonstrate measurable environmental and social outcomes. Funded activities span ecosystem restoration, regenerative agriculture, demand management, green and grey infrastructure as well as access to water, sanitation and hygiene with the impact linked to water quantity, quality, ecosystems and human well-being. While corporate contributions have grown significantly over the past decade, their scale remains constrained by institutional gaps and limited standardisation. And it is unclear how corporate engagement will evolve. Will it remain limited to the most scrutinised multinational corporations (15 to 20 Fortune 500 companies) or expand to a further 5 000 firms?

4.3.2.2 Land value capture and fiscal instruments

Public investments in flood protection, green infrastructure and water-sensitive urban development can increase land and property values, and governments can claim back part of this publicly generated value through fiscal instruments. That is called land value capture. Some of those

instruments, such as betterment levies⁷, tax-increment financing or special assessment districts, have already been well established in the transport sector and are increasingly relevant for water and climate adaptation. Evidence indicates that flood-risk-reduction investments can raise urban land values by 11% to 18% (Avner et al., 2021), providing a basis for fiscal tools to expand resilience funding. These instruments are not a silver bullet, but adapted to local contexts, they can improve the impact of public resources (Aqua Publica Europea, 2025; Nagam et al., 2025).

4.3.2.3 Cross-sector revenue models

Emerging synergies across water, energy, waste and digital infrastructure are creating new opportunities for alternative revenue streams. Integrated utility models have demonstrated how shared infrastructure – such as biogas generation from wastewater or digital metering networks – can diversify income and reduce reliance on tariffs. However, significant barriers remain, including mismatches in investment horizons (for example short-term energy feed-in guarantees⁸ vs. long-lived water assets) and unresolved questions of cost allocation across sectors and user groups.

Resource recovery from wastewater, including energy and nutrient extraction, offers further potential but remains constrained by regulatory uncertainty, technical challenges and emerging pollutant concerns. While technologies such as hydrothermal gasification show where circular approaches can go, most remain at pre-commercial stages, reinforcing the need for the right regulatory and investment frameworks.

Together, these approaches illustrate that expanding the funding base for water resilience depends as much on institutional and fiscal innovation as on financial instruments.

4.3.3 Gaps and the right conditions

While revenue and funding models are getting more diversified, their scale and effectiveness is still being limited by structural gaps. Closing those gaps depends on three interdependent conditions.

4.3.3.1 Regulatory and policy coherence

Current regulatory frameworks continue to prioritise short-term efficiency over long-term resilience, often restricting revenue diversification and reinvestment. Greater coordination across water, energy, agriculture and waste regulation is required to unlock integrated investment opportunities, alongside performance-based metrics that reward resilience and circular-economy outcomes. Regulatory sandboxes were highlighted as a useful tool to enable experimentation and adaptive learning without compromising service continuity or financial stability.

Examples such as Portugal's nationally coordinated regulatory model and the independent economic regulation of water utilities in New South Wales, Australia, illustrate how clear performance standards, transparent benchmarking and scrutiny of investment plans can help reconcile customer protection with the financial sustainability of service providers. By linking tariffs and allowed revenues to efficient costs, service outcomes and credible long-term investment needs, such frameworks can strengthen accountability and provide greater certainty for sustained infrastructure investment.

⁷ A betterment levy is a one-time charge or tax imposed on property owners who benefit from an increase in property value resulting from public investment or other government actions. In the water context, this could be raising an embankment to prevent flooding, for example.

⁸ An energy feed-in guarantee is a commitment to pay renewable energy producers for the electricity they supply to the power grid.

4.3.3.2 Institutional and fiscal readiness

Many public entities lack the administrative, fiduciary and legal capacity to receive, manage and co-finance blended or private funds transparently. Fiscal and legal ambiguity remains a deterrent for corporate investors, particularly regarding tax treatment, value added tax obligations and foreign-exchange risks. Clarifying these aspects through coherent policy guidance and harmonised EU-national coordination could significantly improve the investment climate for domestic and international organisations.

4.3.3.3 Trust, capacity and knowledge systems

Persistent mistrust among public institutions, utilities, corporates and civil society – often linked to concerns over greenwashing, fairness and decision-making – continues to constrain private-sector participation. Neutral intermediaries and multistakeholder platforms can help bridge these divides by ensuring transparency, strengthening professional skills in blended finance and impact measurement and supporting shared data and monitoring systems that reduce duplication and enable evidence-based decisions.

Taken together, these conditions are the foundation for a more mature funding and governance system – one capable of mobilising diverse resources, accelerating innovation and delivering water resilience as a shared public value.

To conclude, addressing current funding gaps will require watershed-scale system integrators that can act as institutional brokers, aligning funding (revenue) and financing (capital mobilisation) mechanisms, governance arrangements and investment origination across sectors. These integrating roles are explored in Section VI.

5 KEY CHALLENGES AND DILEMMAS

Accelerating investment in water resilience requires confronting a set of structural barriers and trade-offs. These dilemmas are not simply technical, they reflect the deeper tensions between efficiency and fairness, centralisation and decentralisation, evidence and urgency and evolution and stability. Addressing them will determine whether Europe's transition towards water resilience can be both credible and inclusive.

5.1 The finance paradox: Catalyst or constraint?

Finance is both a constraint and a catalyst. When projects are shaped primarily by financial criteria, other important criteria like innovation and systemic resilience might be overlooked. Conversely, when financial viability is not sufficiently considered in the development of water resilience strategies and master plans, implementation is likely to be problematic. The main challenge does not seem to be the availability of capital, but the capacity to originate investments that connect public purpose with viable delivery and revenue models. Too often, attention is put on financial engineering rather than earlier stages, where missions, partnerships and value creation should be defined. This tendency results in financial criteria constraining project design and determining technology choices. The task is to shift attention and resources towards these early stages of the investment cycle, aligning financial engineering with strategic intent. The idea is to use finance to enable transformation, not to constrain it.

The deeper dilemma is that finance has come to determine what gets built. The dominance of project finance and cost efficiency tends to favour large, capital-intensive infrastructure, while excluding decentralised, nature-based or socially innovative and frugal alternatives that may offer greater long-term resilience. This reflects the broader financialisation of the economy, where risk appetites, return expectations and time horizons dictate what is considered feasible. Once discussions start with budget ceilings, tariff limits or bankability thresholds, potential solutions are constrained and transformative options screened out before they are even explored.

At the same time, finance represents a powerful current of incentives that can – and must – be redirected to drive systemic change. Regional and national banks, national authorities and investors can use financial instruments not only to fund assets but to shape governance and collaboration, rewarding diversification, adaptive planning and shared responsibility. For this to happen, however, the public sector needs to take the lead in investment origination, anchored in strategic planning by government and water basin authorities. This requires strengthening public institutions that are currently overstretched, understaffed and underskilled.

The entities expected to provide foresight and innovation – ministries, utilities and regional agencies – often lack the human and technical resources to engage meaningfully with the private sector or to lead multisectoral planning efforts. Few are equipped to develop pipelines of projects with clear investment cases or business models and proven revenue-generating capacity. This capacity gap is now a central bottleneck to finance the transition. The private sector can get the ball rolling here, not just by bringing finance, but by contributing strategic, operational and analytical expertise in co-developing investment programmes and building institutional capability. The construction sector's contribution, and the policy and regulatory bottlenecks that currently constrain it, are examined in detail in a recent position paper by the European Construction Industry Federation (FIEC) (FIEC, 2025).

Emerging hybrid models demonstrate this potential. The North Star Transition Lab shows how private organisations can contribute to forward-looking, society-oriented planning alongside public institutions. Similarly, the TURF approach in Mauritania, developed by Meridiam, created a joint venture where returns are shared 50-50 between public and private partners, with governance structures ensuring public participation but staffing largely provided by private investors. Such arrangements show that blending finance is not enough. Blending capabilities and perspectives across the investment cycle is equally vital to unlock innovation, cost efficiencies and impact.

Ultimately, the dilemma is one of sequencing and balance. Finance must follow strategy, not lead it. Capital should be structured around long-term missions and adaptive governance rather than around static risk models. The balance to strike is between discipline and vision, deploying financial tools rigorously while keeping them in service of collective, system-level objectives. Only by aligning financial design with institutional capacity and strategic intent can finance become a true enabler of transformation rather than a constraint on imagination.

5.2 Affordability, fairness and financial sustainability: The solidarity dilemma

Reconciling affordability, social justice and financial sustainability remains one of the most persistent and politically sensitive challenges for the water sector. Water and sanitation services must remain accessible to all, while generating enough stable revenue to maintain and renew infrastructure. The dilemma lies in how to recover costs fairly – through tariffs, taxes or transfers – while protecting vulnerable users and sustaining long-term investment.

Water utilities face high fixed costs, typically between 80 % to 90 % of total expenditures. That means revenue recovery cannot rely primarily on variable charges. Tariff structures may need to evolve towards higher fixed components, subject to appropriate affordability safeguards and social protections. Yet such reforms are often politically difficult. High fixed tariffs can be perceived as a step in the wrong direction, placing a proportionally higher burden on low-income households. They also can erode public trust if not paired with transparent affordability safeguards.

Dependence on central grants and subsidies for capital investments, especially for wastewater treatment, has become equally unsustainable. Meeting EU obligations solely through tariffs could, in some contexts, lead to much higher user charges, underscoring the need for multiple sources of funding and shared responsibility between users, taxpayers and producers. Complementary mechanisms such as Extended Producer Responsibility (EPR) for pollutants (for example pharmaceuticals, microplastics) can help distribute costs more equitably by making producers contribute to the treatment of the pollutants they generate. However, experience from the waste sector suggests EPR covers only part of the required investment, reinforcing the need for broader fiscal support.

Ultimately, achieving solidarity in water finance requires a balanced mix of tariffs, transfers and targeted fiscal tools, aligned with the economic nature of each service, whether common resources, private, club or public good. Transparent communication and participatory design of affordability schemes can help sustain public legitimacy and trust. The balance to strike is between social protection and financial viability, ensuring that water remains a universal right while building the fiscal stability needed to finance adaptation, innovation and resilience to guarantee long-term service delivery.

5.3 Governance and institutional capacity: The coordination dilemma

Water resilience depends on governance systems that are coherent yet adaptive. The challenge lies in evolving fragmented, sector-based institutions without eroding the trust and legitimacy they still hold. Governments must balance central coordination with local empowerment, building capacity for strategic planning and investment origination while maintaining accountability across scales. The question is how to modernise governance structures quickly enough to meet climate challenges without destabilising the relationships that make them work.

5.4 Infrastructure models and technological adaptation: The scale dilemma

Europe's water systems are built on large, centralised infrastructure that struggles under the extreme weather caused by climate change. Decentralised, modular and nature-based systems are more flexible, but institutions are not used to them and there are no economies of scale. Deciding when and where to transition, maintaining reliability while embracing innovation – that is the tricky part. The goal must be to build infrastructure portfolios that are efficient today and resilient tomorrow.

5.5 Evidence, decision-making and uncertainty: The confidence dilemma

Decision-makers face data gaps and information overload. Pursuing perfect knowledge delays action, yet acting prematurely can lead to inefficiency and mistakes. The question is how to define proportional standards of evidence that enable timely, adaptive decisions. Progress depends on transparency, shared monitoring and learning frameworks so that decision-makers are equipped to deal with the inevitable amount of uncertainty instead of being paralysed by it.

5.6 Lack of alignment between sectors: The integration dilemma

Water resilience cannot advance in isolation from energy, agriculture and waste systems. Yet each sector has different regulatory cycles, risk profiles and investment logics. Aligning these without distorting responsibilities is a central challenge. The goal is to create shared incentives and planning horizons that make collaboration the rule rather than the exception, bridging sectors while leveraging their diversity.

5.7 Evolution vs. erosion of institutions: The trust dilemma

Institutional reform is indispensable, but so is trust. Transforming governance, regulatory and financial systems too abruptly risks undermining the credibility on which cooperation depends. The core dilemma is how to revamp existing systems fast enough to remain relevant to climate realities without eroding their legitimacy. Progress must rest on reform that is bold in purpose but careful in execution.

All those dilemmas are not obstacles to avoid but frontiers to navigate collectively. Each one of them calls for dialogue, experimentation and alignment between the public and private sectors and civil society. By recognising and managing these tensions openly, Europe can transform its water systems into engines of resilience that are adaptive, fair and capable of sustaining life and prosperity in an uncertain climate future.

6 THE WAY FORWARD

Existing planning, governance and investment systems are structurally misaligned with the systemic and basin-based nature of water systems. While water risks and flows are driven by how water moves through nature, it is managed by different municipal, regional or utility-level institutions that have authority over water supply, sanitation, land-use and infrastructure investments. This misalignment reinforces fragmentation, short-termism and single-purpose solutions, resulting in underinvestment, misallocated capital and missed opportunities for solutions with a broader set of benefits.

Structural reforms to these systems are necessary, but they take time. In the meantime, progress depends on EU institutions, public banks and other society-oriented intermediaries playing a deliberate connective role, that is enabling coordination, across hydrological and administrative boundaries, shaping investment plans and mobilising diverse groups and organisations around shared, localised goals. In this context, frameworks at the level of river basins can serve as strategic and financial alignment platforms, guiding priorities, enabling aggregation and subsidy design, while project delivery stays with legally mandated entities.

The roles set out below articulate how such connectors can help turn fragmented initiatives into coherent, investable plans for water resilience.

A central direction emerging from the dialogue is the need for policy coherence and alignment, particularly between the regulatory and investment frameworks that shape public and private decision-making. Achieving this alignment will take time. In the meantime, progress depends on becoming more effective at blending, not only blending finance at project level but combining financial instruments and approaches at programme and system levels to de-risk innovation, mobilise private investment where appropriate and develop new technologies and business models over time. To move the needle, blending must extend beyond finance to include disciplines, skills and paradigms. Such integration ultimately depends on collaboration and relationships.

Building and maintaining relationships across institutions, sectors and communities takes time – arguably the scarcest resource in governments and financial institutions. Yet relational investment enables long-term transformation: a shift from siloed, budget-focused approaches towards localised investment platforms at the scale of entire watersheds, where public, private and community organisations align around shared societal objectives as a basis for investment planning that benefits all of society. Participatory processes can strengthen legitimacy and ownership and help rebuild the trust required to mobilise the scale of investment needed for water resilience.

From a financial perspective, more funding is needed, along with greater creativity in structuring and combining funding sources. Countries may consider, in line with their national frameworks, different combinations of taxes, user tariffs and transfers depending on their starting points. The aim is to have continuous and flexible sources of concessional finance, ideally at the national level, to support public goods such as flood protection, ecosystem restoration and resilience. In parallel, tariff structures should enable essential services to finance themselves, leveraging economies of scale and scope, while public goods receive support through complementary fiscal or blended finance mechanisms. At the project and utility level, combining multiple revenue sources can enable multipurpose and nexus investments that deliver co-benefits across economic sectors, with experience showing cost reductions of up to 30% while avoiding future negative externalities that would otherwise require further spending.

Looking ahead, funding the transition will remain challenging. Decades of underinvestment and fragmented governance have left many systems ill-equipped to manage accelerating climate risks. The opportunity now lies in identifying and acting on deep leverage points, areas where targeted effort can shift system logic and performance. The European Commission and the EIB, alongside national promotional banks and, in some cases, multilateral climate funds, can collaborate to de-risk the transition, support local capacity and facilitate coherent investment plans for adaptation and regeneration. This will require capabilities in systems thinking, integrative planning, regenerative design and compelling narratives that unite sectors and stakeholders around shared purpose. It will also require system integrators at national, local and watershed levels able to facilitate public, private and transdisciplinary cooperation and support a shared language, vision and narrative for investment.

To date, many efforts to mobilise private investment for adaptation, for example through multilateral climate funds, have focused on financial intermediaries and facilities that reduce the cost of capital. However, participants highlighted systemic barriers that often sit beyond cost of capital and remain insufficiently addressed by blended finance facilities: (a) transaction costs linked to the scale (watershed) required for effective adaptation investment; and (b) transition-related risks linked to the innovative nature of many adaptation solutions (including nature-based solutions) and the characteristics of the water and civil works markets in which they must be deployed (for example regulated markets, monopsony) (Altamirano, 2021). Addressing these barriers is where concessional and climate finance (in emerging economies) and EU structural funds (in Europe) can play a key role in unlocking private participation, ingenuity and new sources of capital.

Across the discussions, three shared lessons emerged. First, society-oriented investment requires long-term institutional homes that endure beyond project lifecycles. Second, investment origination and funding frameworks can become more effective by adopting the watershed as a planning unit, where coordination multiplies value. Third, trust, grounded in transparency across data, governance and finance, is a decisive enabler for mobilising blended capital and engaging the private sector in a meaningful way.

Regional banks and development finance institutions – alongside other EU and national institutions – are well positioned, within their respective mandates, to support countries in filling coordination, origination and preparation gaps.

6.1 Leverage points to accelerate implementation

In line with these lessons, participants identified the following deep leverage points to accelerate investments and close the implementation gap for water resilience:

- **Local capacity for investment origination and project preparation.** National, local and regional governments need the capabilities to originate robust investment programmes across infrastructure sectors at watershed scale and develop investable projects with a clear theory of change from a comprehensive perspective. Strengthening planning systems, intersectoral coordination and institutional capabilities can improve portfolio quality, increase access to private finance and enhance ecosystem resilience.
- **Policy coherence and robust governance of water resources and risks.** Clear regulatory frameworks, effective enforcement and well-defined institutional roles foster investor confidence, reduce transaction costs and enhance cost recovery, ultimately strengthening infrastructure quality and service performance. For private investment at the watershed level, clearer entry points and more standardised procedures can further reduce friction.

- **Public procurement and the effectiveness of project and service delivery models.**
Procurement and delivery frameworks must ensure that financial flows translate into sustainable services. Transparent and performance-based models can reduce transaction costs and strengthen long-term asset management incentives. EU public procurement policies and procedures are a powerful lever to accelerate the adoption of promising innovations and the creation of new markets for adaptation and water resilience – and in doing so, to stimulate job creation and value generation – given that public contracts account for 14% of Europe’s GDP (European Construction Industry Federation (FIEC), 2025).

Together, these leverage points act as multipliers of public investment impact, ensuring that each euro invested – public or private – contributes to resilience, efficiency and progress towards Sustainable Development Goal 6.

While centred on Europe’s Water Resilience Challenge, the dialogue gained depth from exchanges with other regions and emerging economies. Despite different contexts, structural barriers and leverage points are often similar. The lessons, therefore, flow both ways. Europe can learn from adaptive models elsewhere, while other regions can observe that the EU faces comparable constraints and trade-offs. This shared understanding provides a foundation for collaboration rooted in coherence, partnership and purpose.

In the following section, the paper outlines roles that EU institutions, public banks, the EIB and other intermediaries can play – individually or jointly – to support implementation of the EU Water Resilience Strategy at the required speed and scale.

6.2 Advancing water resilience in Europe: Ecosystem roles

Achieving Europe’s Water Resilience Strategy will depend on far more than the availability of finance alone. Finance, policy and institutional capacity will need to be connected more closely. EU institutions, public banks, the EIB and other society-oriented intermediaries are well positioned to play this connective role in close alignment with public authorities and local and regional governments.

From the discussions, four complementary roles emerged that different parties can play, based on mandates and unique skills and expertise. Together, these roles describe how institutions can act as strategic enablers, financial innovators, institutional facilitators and trusted partners, translating policy ambition into investable programmes and durable institutional practice.

A critical contribution lies in supporting the connective elements of transitions, such as convening capacity and the long-term design of integrated funding and blended finance strategies, alongside early co-development platforms. Advisory facilities can be explicitly designed to support mission origination alongside project-level preparation. Investments in enabling structures, such as system integrators, watershed-scale partnerships and monitoring systems, can help build a continuous pipeline of investable projects that advance resilience, fairness and adaptation. Table 1 on the next page summarises the roles and scopes of support, with additional detail in [Annex B](#).

These roles are not intended as prescriptive institutional assignments. They describe complementary system functions that may be assumed by different EU institutions, national bodies, public banks or other intermediaries – individually or jointly – depending on mandate, capacity and context.

6.2.1 Enablers of society-oriented coordination and investment

Organisations across the ecosystem can move beyond project-based finance to help shape shared societal objectives (missions) and co-develop investment plans at catchment, national and regional scales. By supporting and in some cases funding the enabling conditions for collaboration at catchment level (for example co-development platforms, mission coordinators and learning laboratories), and by providing targeted technical support, they can help transform fragmented initiatives into coherent, investable programmes.

In parallel, piloting new economic governance arrangements at watershed level designed to ensure long-term financial sustainability can help anchor missions beyond individual funding cycles. This role is critical to ensure finance aligns with strategic priorities and system-wide outcomes rather than isolated projects. Participants emphasised that supporting institutions should prioritise mission origination and system formation, not only project preparation and financial engineering.

6.2.2 Architects of blended finance and revenue-generating ecosystems

Water resilience requires diverse funding sources and financing mechanisms that go beyond traditional project finance. This role focuses on designing funding and financing architectures that mobilise and blend public, concessional, commercial and philanthropic capital while enabling alternative revenue generation and value-capture options (for example nature credits or stormwater markets). Supporting institutions that work with national and local governments, can catalyse governance and economic mechanisms that monetise resilience outcomes. This, in turn, would avoid losses of ecosystem services, helping turn public investment in public goods into more self-sustaining systems and, over time, enabling new investable asset classes (Elmahdi & Wang, 2022).

This includes developing co-funding platforms and testing fiscal and economic policy instruments (for example land value capture, extended producer responsibility frameworks), environmental markets and collective vehicles pooling corporate contributions. Scaling will require multilevel revenue strategies co-developed with authorities at three levels:

- national, through coherent frameworks balancing user tariffs, taxes and transfers according to the nature of goods and services;
- catchment, through mechanisms aligning local organisations and value chains; and
- project/utility, through multipurpose designs and contractual schemes that enable stacking revenue streams over time horizons (Altamirano et al., 2021).

Table 1. Ecosystem roles and scopes of support

Role	Scope of support	Subfunctions
Enablers of society-oriented coordination and strategic investment origination	Shift from project-based finance towards programme, society-oriented investment origination aligned with national and basin priorities.	• Strategic alignment, planning and upstream support • Mission and investment pipeline origination • Institutional strengthening
Architects of blended finance and revenue-generating	Design and test financial architectures that not only mobilise and blend public, private, concessional and philanthropic	• Financial innovation, development of blended and catalytic funding and financing mechanisms

ecosystems, and providers of catalytic capital	capital but also generate and capture new revenue streams for water resilience. Develop multilevel revenue strategies that combine financial instruments with fiscal and policy mechanisms, creating self-sustaining funding ecosystems where value creation, capture and reinvestment support long-term resilience.	• Adaptive and performance-based financing and payment instruments for multibenefit and/or multipurpose investment projects • Design and support implementation of multilevel revenue and fiscal innovation strategies across national, catchment and project scales
Facilitators of institutional, regulatory and policy coherence	Strengthen the governance, regulatory and institutional frameworks needed to align incentives and attract investment.	• Regulatory coordination and innovation, aiming at regulatory and policy coherence • Institutional capacity and readiness • Enabling legal frameworks
Trusted sources of knowledge, legitimacy and partnerships	Enhance trust, transparency and accountability through shared data, capacity building and stakeholder engagement. Providing funding and institutional support for adaptive management capacity	• Broker partnerships and convene open exchange between sectors to enable strategic rethinking and co-creation of investment origination models, economic governance arrangements and aligned funding and blended finance strategies • Learning and dissemination • Knowledge and data ecosystems

Participants also stressed that the greatest potential of blending lies in early-stage collaboration that brings together different expertise and perspectives. This can unlock innovation, improve cost efficiency and strengthen alignment of incentives and purpose across sectors. They urged shifting the focus from narrow financial engineering towards long-term origination systems and more flexible lending and technical assistance frameworks that reward innovation in governance as well as in technology.

6.2.3 Facilitators of institutional, regulatory and policy coherence

Institutional fragmentation and misaligned incentives across water, energy, agriculture and waste are still some of the greatest barriers to water resilience. Governments need help designing coherent regulatory and institutional frameworks that reward innovation, long-term performance and cross-sector coordination. By convening regulators and supporting the design and testing of policy instruments (for example performance standards, regulatory sandboxes), this role helps bridge the gap between policy and finance and reduces investor uncertainty.

6.2.4 Trusted sources of knowledge, legitimacy and partnerships

Another required role is that of trusted bridge-builder able to build legitimacy and trust among players from the public and private sectors and from civil society. By facilitating open exchange between sectors for peer learning and co-creation, from the local level to EU-global interactions for

rethinking investment origination and blended strategies, trusted leads can accelerate alignment of incentives, strengthen coherence and unlock collective intelligence for higher-impact investments.

Trusted intermediaries can also support structured public-private collaboration at an earlier stage to co-design credible governance and value-capture arrangements, enabling transparent decision-making and societally legitimate pipelines. Trusted facilitators can support the development of innovative partnership models, such as “Just Water Partnerships” – as they are called by the Global Commission on the Economics of Water – that ensure a fair distribution of risks and benefits, mitigate reputational risks and align incentives and purpose among governments, investors, project developers and communities.

This role can extend to capability building in systems thinking, society-oriented procurement, multipurpose investment design, fiduciary management, impact evaluation and blended finance structuring. In collaboration with research programmes and universities, trusted leads can contribute to curricula for next-generation infrastructure planners and asset managers able to implement community-oriented approaches.

Finally, as recognition grows that traditional large-scale infrastructure alone will not be sufficient to address increasing climate variability or bridge access and equity gaps, strengthening adaptive management capacity becomes essential. This includes the ability to deploy new types of infrastructure and urban development paradigms – decentralised, agile and nature-based solutions such as sponge-city approaches – and to deepen understanding of where and how they are most effective.

Building this capacity can involve providing grant-based funding for demonstration projects, developing decision-support and digital tools (such as digital twins) and establishing monitoring and learning frameworks. It also requires society-oriented procurement strategies that enable early private-sector engagement and support the emergence of new markets, reliable suppliers and resilient value chains, thereby accelerating the development and adoption of these solutions (European Construction Industry Federation (FIEC), 2025; Inter-American Development Bank & Ministry of Public Works, Government of Chile, 2022).

7 REFERENCES

- Altamirano, M. A. (2021). Leveraging Private Sector Investments in Adaptation: The Evolving Role of Climate Finance in Enabling a Paradigm Shift (London Climate Action Week 2021). Climate Markets and Investors Association. Available at: <https://www.cmia.net/news/press-releases/mobilising-private-finance-for-adaptation-the-case-for-a-fair-transition-2/>
- Altamirano, M. A., De Rijke, H., Carrera, L. B., & Jaimesena, B. A. (2021). Handbook for the Implementation of Nature-Based Solutions for Water Security: Guidelines for designing an implementation and financing arrangement. Deliverable 7.3. EU Horizon 2020 NAIAD Project, Grant Agreement N°730497 Dissemination. <https://doi.org/10.13140/RG.2.2.19377.71524>
- Aqua Publica Europea. (2025). Financing Water Resilience: How to Reconcile Environmental Sustainability, Equity and Efficiency in the Water Sector for the Future of Europe. Aqua Publica Europea. Available at: <https://www.aquapublica.eu/article/news/event-report-financing-water-resilience-reconciling-environmental-sustainability>
- Autret, Yannick, Goger, Thierry, Navarro, Charlotte, Hedelin, Audrey, Ampthi, Lars Briggs, & others. (2023). Biodiversity and Infrastructure Synergies and Opportunities for European Transport Network (BISON): Strategic Research and Deployment Agenda. Centre for Research and Technology Hellas (CERTH). Available at: <https://bison-transport.eu/>
- Avner, P., Viguié, V., Arga Fino, B., & Hallegate, S. (2021). Flood Protection and Land Value Creation: Not All Resilience Investments Are Created Equal. World Bank. Available at: <https://documents1.worldbank.org/curated/en/489851627570942811/pdf/Flood-Protection-and-Land-Value-Creation-Not-All-Resilience-Investments-Are-Created-Equal.pdf>
- Bloemen, P. J. T. M., Hammer, F., van der Vlist, M. J., Grinwis, P., & van Alphen, J. (2019). DMDU into Practice: Adaptive Delta Management in The Netherlands. In V. A. W. J. Marchau, W. E. Walker, P. J. T. M. Bloemen, & S. W. Popper (Eds), Decision Making under Deep Uncertainty (pp. 321-351). Springer International Publishing. https://doi.org/10.1007/978-3-030-05252-2_14
- Ceglar, A., Danieli, F., Heemskerk, I., Jwaideh, M., & Ranger, N. (2025, 23 May). The European economy is not drought-proof. The ECB Blog. Available at: <https://www.ecb.europa.eu/press/blog/date/2025/html/ecb.blog20250523~d39e3a7933.en.html>
- Elmahdi, A., & Wang, L. (2022). Water Asset Transition through Treating Water as a New Asset Class for Paradigm Shift for Climate-Water Resilience. *Climate*, 10(12), 191. <https://doi.org/10.3390/cli10120191>
- Estevez Valencia, C. (2025, September 25). Chilean Experiences in Water Regulation and Institutional Frameworks. Future-Proofing Europe's Water Systems: From Vision to Investment Pathways.
- European Commission. (2025). European Water Resilience Strategy (COM(2025) 280 final). European Commission. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0280>
- European Construction Industry Federation (FIEC). (2025, 20 October). Water Resilience: Solutions by the Construction Industry in a Sustainable Policy Framework. European Construction Industry

Federation. Available at: <https://www.fiec.eu/fiec-opinions/position-papers-pl/water-resilience-solutions-construction-industry-sustainable-policy-framework>

European Environment Agency (Ed.). (2024). European climate risk assessment: Executive summary. Publications Office of the European Union. <https://doi.org/10.2800/204249>

European Investment Bank. (2023, 5 December). COP28: EIB and Meridiam showcase a new investment initiative to protect vulnerable cities in Africa from climate change. European Investment Bank. Available at: <https://www.eib.org/en/press/news/cop28-eib-and-meridiam-showcase-a-new-investment-initiative-to-protect-vulnerable-cities-in-africa-from-climate-change>

European Investment Bank. (2024). The Urban Resilience Fund (TURF). European Investment Bank. Available at: <https://www.eib.org/en/products/equity/funds/the-urban-resilience-fund-turf-b>

Fédération de l'Industrie Européenne de la Construction (FIEC). (2025). Water Resilience: Solutions by the Construction Industry in a Sustainable Policy Framework. European Construction Industry Federation (FIEC). Available at: <https://www.fiec.eu/fiec-opinions/position-papers-pl/water-resilience-solutions-construction-industry-sustainable-policy-framework>

Fratini, C. F. (2025, September 25). Smarter Investments for Urban and Water Resilience: Context-Based Approaches for Long-Term Value. Future-Proofing Europe's Water Systems: From Vision to Investment Pathways.

Fratini, C. F., & Jensen, J. S. (2017). The role of place-specific dynamics in the destabilization of the Danish water regime: An actor-network view on urban sustainability transitions. In *Urban sustainability transitions* (pp. 86-105). Routledge.

Giani, M., & Kosta, I. (2025, August). What will it take to unlock investment in water infrastructure? World Economic Forum. Available at: <https://www.weforum.org/stories/2025/08/water-infrastructure-investment-growth/>

Global Commission on the Economics of Water. (2023). Turning the Tide. A call to Collective Action by the Global Commission on the Economics of Water. Available at: <https://watercommission.org/wp-content/uploads/2023/03/Turning-the-Tide-Report-Web.pdf>

Global Environment Facility. (2023). Enhancing Policy Coherence through GEF Operations (GEF/C.64/09). Global Environment Facility. Available at: https://www.thegef.org/sites/default/files/documents/2023-06/EN_GEF_C.64_09_Enhancing%20Policy%20Coherence%20through%20GEF%20Operations_.pdf

Inter-American Development Bank & Ministry of Public Works, Government of Chile. (2022). Public-Private Cooperation and Management Model for Innovative Initiatives (Report IV) [Water Infrastructure Investment Plan (PIIH 2050) – Product IV]. Inter-American Development Bank and Ministry of Public Works, Government of Chile.

Joseph, G., Hoo, Y. R., Qiao, W., Luis Alberto, A., & Aroha, B. (2024). Funding a Water-Secure Future: An Assessment of Global Public Spending. World Bank.

Marchau, V. A. W. J., Walker, W. E., Bloemen, P. J. T. M., & Popper, S. W. (Eds). (2019). *Decision Making under Deep Uncertainty: From Theory to Practice*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-05252-2>

- Mazzucato, M. (2025, 5 August). The world needs a new economics of water. Project Syndicate. Available at: <https://www.project-syndicate.org/commentary/new-economics-of-water-for-increasingly-urgent-hydrological-crisis-by-mariana-mazzucato-2025-08>
- Meridiam. (2021). Sustainable and Resilient Cities of Tomorrow. Meridiam. Available at: <https://www.meridiam.com/assets/sustainable-and-resilient-cities-of-tomorrow/>
- Meridiam. (2023, 5 July). Meridiam announces the launch of an unprecedented partnership with Dijon Métropole to accelerate the energy transition. Meridiam. Available at: <https://www.meridiam.com/news/meridiam-announces-the-launch-of-an-unprecedented-partnership-with-dijon-metropole-to-accelerate-the-energy-transition/>
- Meridiam. (2025). SEM Dijon Métropole Smart Energy: A Public-Private Partnership for the Energy Transition. Meridiam. Available at: https://www.meridiam.com/wp-content/uploads/2025/07/SEM-Meridiam-Dijon_UK-final-1.pdf
- Nagam, Y., Welch, P., & Gorey, J. (2025, 7 October). Unlocking Climate Resilience Through Land Value Capture. Local solutions to finance climate adaptation [Lincoln Institute of Land Policy]. Land Lines Magazine. Available at: <https://www.lincolninst.edu/publications/land-lines-magazine/articles/unlocking-climate-resilience-through-land-value-capture/>
- North Star Transition. (2025). Wye & Usk Transition Lab Progress Report. North Star Transition. Available at: <https://www.northstartransition.org/insights/wye-usk-transition-lab-update-report>
- Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S. E., Donges, J. F., Drüke, M., Fetzer, I., Bala, G., Von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, D., ... Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9(37), eadh2458. <https://doi.org/10.1126/sciadv.adh2458>
- United Nations. (2024). The Sustainable Development Goals Report 2024. United Nations. Available at: <https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>
- Van Dijk, A. I. J. M., Beck, H. E., Boergens, E., de Jeu, R. A. M., Dorigo, W. A., Edirisinghe, C., Forootan, E., Guo, E., Güntner, A., Hou, J., Mehrnegar, N., Mo, S., Preimesberger, W., Rahman, J., & Rozas Larraondo, P. (2025). Global Water Monitor 2024, Summary Report. Global Water Monitor Consortium. Available at: <https://www.globalwater.online>
- van Ginneken, M. (2025, September 25). Water Financing in the Netherlands: Aligning Trust, Governance and Investment. Future-Proofing Europe's Water Systems: From Vision to Investment Pathways.
- Walker, W. E., Rahman, S. A., & Cave, J. (2001). Adaptive policies, policy analysis and policymaking. *European Journal of Operational Research*, 128, 282–289.
- Water Europe. (2025). The Multiannual Financial Framework: €300 Billion That Builds More Than Water Pipes [Policy-related paper]. Water Europe. Available at: <https://watereurope.eu>
- World Bank. (2016). High and Dry. Climate Change, Water and the Economy. World Bank Group. Water Global Practice.

ANNEX A: PARTICIPANTS AND CONTRIBUTORS AT THE EIB EVENT

This event brought together a diverse and select group of leaders who are shaping the future of our economies by advancing climate, water, nature and infrastructure finance. They are presented in alphabetical order.

1. Amgad Elmahdi, PhD regional manager for MENA Region, Green Climate Fund
2. Aurora Matteini, specialist, financial and monetary systems, Centre for Financial and Monetary Systems, World Economic Forum
3. Carlos Estevez, coordinator water cabinet, Chilean Ministry of Public Works
4. Catherine McSweeney, nature partnerships, civil society, EIB
5. Chiara Fratini, PhD, senior researcher – DTU Sustain – Department of Environmental and Resource Engineering
6. Christopher Gasson, founder and chief executive, Global Water Intelligence
7. Dominique Bouillot, chairman WG Infrastructure and Financing, FIEC
8. Dominique Gatel, global director of public affairs / Water, Veolia
9. Edouard Perard, PhD, head of the Water Division, EIB
10. Eugenie Avram, policy and programme coordinator – AquaFed
11. Frédéric Bobay, chargé de mission, Direction générale du Trésor
12. Gunter Fischer, PhD, principal advisor, EIB Institute
13. James Hunt, senior water engineer, Water Division, EIB
14. Jyoti Banerjee, chief executive and co-founder, North Star Transition
15. Karine Measson, head of the Public Sector Operations Division for Western Europe, EIB
16. Milo Fiasconaro, executive director, Aqua Publica Europea
17. Meike van Ginneken, water envoy for the Kingdom of the Netherlands
18. Mónica A. Altamirano, PhD – climate finance and public-private partnership expert | systems thinker
19. Pierre Pauliac, director, Water Division, executive vice-president
20. Luca Perez, deputy head of the Unit for Sustainable Freshwater Management, Directorate-General for Environment, European Commission
21. Samuel Blazyk, chief programme and coordination officer, African Water Facility, African Development Bank
22. Shiva Dustdar, director, former head of the EIB Institute
23. Stephen Hart, principal advisor for nature and water, Public Sector Lending, EIB
24. Thierry Déau, chief executive and founder, Meridiam
25. Todd Reeve, chief executive, Bonneville Environmental Foundation
26. Tom Cummings, systems thinker and board advisor | Chair, B Lab Europe
27. Trine Christiansen, PhD, head of the Group for Freshwater and Environment, European Environment Agency
28. Vera Eiro, PhD, president of WAREG ' European Water Regulators
29. Xavier Leflaive, chairperson, CERULEA
30. Yannick Autret, general delegate, Professional Union of Ecological Engineering

ANNEX B: ECOSYSTEM ROLES REQUIRED TO ADVANCE WATER RESILIENCE

ROLE	SCOPE OF SUPPORT	SUBFUNCTIONS	CONCRETE ACTIVITIES AND ACTIONS
Enablers of society-oriented coordination and strategic investment origination	Shift from project-based finance towards programmatic, society-oriented investments aligned with national and basin priorities.	Strategic alignment, planning and support in envisaging and implementing projects Mission and investment pipeline origination Institutional strengthening	• Embed water resilience into national infrastructure, climate and spatial-planning frameworks. • Develop, demonstrate and document society-oriented investment approaches based on regenerative design principles in selected catchments, and based on this evidence propose alternative set-ups and strategies for their uptake in regions with different institutional settings and starting points. • Fund and support through technical assistance the creation and/or strengthening of catchment-level coordination platforms, trusted “system integrators” or “mission labs,” bringing together organisations from the public and private sectors and from civil society. • Support the creation and operationalisation of mission coordinators, basin councils, interministerial coordination platforms and data-sharing systems for integrated society-oriented planning.
Architects of blended finance and	Design and test financing architectures that not only mobilise and blend public,	Financial innovation, including the development of integrated funding models	• Design and pilot co-funding mechanisms and blended-finance platforms that aggregate public, private, insurance and philanthropic resources for multibenefit investment programmes

revenue-generating ecosystems, and providers of catalytic capital

private, concessional and philanthropic capital but also generate and capture new revenue streams for water resilience.

Develop multilevel (national, catchment, project) revenue strategies that combine financial instruments with fiscal and policy mechanisms, creating self-sustaining funding ecosystems where value creation, capture and reinvestment support long-term resilience.

and blended/ finance mechanisms

Adaptive and performance-based financing and payment instruments for multibenefit and/or multipurpose investment projects

Design and support implementation of multilevel revenue and fiscal innovation strategies across national, catchment and project scales

(such as national water resilience or catchment-scale adaptation funds) and under transparent fiduciary oversight.

- Help design financial instruments that de-risk early-stage, multibenefit projects and crowd in capital aligned with public objectives.
- Deploy first-loss tranches, guarantees and concessional windows to de-risk early-stage or nature-based projects and crowd in institutional investors.
- Support demonstration of pay-for-performance or insurance-linked mechanisms that monetise avoided damages or verified resilience outcomes.
- Introduce adaptive financing models where terms or risk-sharing evolve as data and system performance improve.
- At the national level: co-develop funding frameworks with ministries of finance and environment that balance tariffs, taxes and transfers according to the economic nature of water services and public-good functions.
- Support demonstration projects of fiscal and policy tools such as land value capture, extended producer responsibility for pollutants, and targeted water or abstraction levies that reinvest revenues in resilience.
- Evaluate the potential of new value-capture and taxation models (for example stormwater fees, green infrastructure surcharges) in partnership with fiscal authorities.

- Support catchment-level funding platforms that align local organisations and value chains through cost-sharing or mission-coordination arrangements.
- Design, test and promote the use of blueprints, standard contracts and blended finance structures for programme- and project-level multipurpose investments that integrate multiple revenue streams (for example water reuse, energy generation, agricultural services) and enable the stacking of finance from diverse sources.
- Support and evaluate innovative fiscal and value-capture mechanisms – including land value capture, extended producer responsibility for pollutants, targeted water or abstraction levies, stormwater fees and green infrastructure surcharges – by partnering with fiscal authorities and piloting demonstration projects that reinvest revenues in resilience.
- Facilitate coordination with the European Commission to embed successful mechanisms into EU-wide funding programmes or regulatory frameworks.

Facilitators of institutional, regulatory and policy coherence

Strengthen the governance, regulatory and institutional frameworks needed to align incentives and attract investment.

Regulatory coordination and innovation, aimed at regulatory and policy coherence

Institutional capacity and readiness

Enabling legal frameworks

- Facilitate structured dialogue and knowledge exchange among sectoral regulators to harmonise incentives, improve tariff design and develop frameworks and metrics that reward resilience and the adoption of innovations, such as nature-based and circular (reuse) solutions, including the application of regulatory sandboxes that support experimentation and adaptive regulation.
- Working with EU and national authorities to clarify fiscal and legal frameworks – including taxation, foreign-exchange and

compliance aspects – to reduce uncertainty for corporate and blended investments.

- Help design public-private governance models for integrated service delivery (multiutility or basin-scale).

Trusted sources of knowledge, legitimacy and partnerships

Enhance trust, transparency and accountability through shared data, capacity building and stakeholder engagement.

Provide funding and institutional support for adaptive management capacity.

Broker partnerships and convening cross-sector “brave spaces” to enable strategic rethinking and co-creation

Fund and support adaptive management capacity

Learning and dissemination

Knowledge and data ecosystems

- Convene neutral cross-sector spaces for peer learning and co-creation, including: a) local-level “brave spaces” to enable systemic rethinking of investment origination and aligned funding and blended finance strategies, and
- b) an EU-global annual convening and community of practice for shared learning, strategic alignment and continuous improvement
- Facilitate and structure public-private collaboration at earlier stages, acting as a trusted intermediary to: a) co-design credible and pilot testing of economic governance arrangements and transparent decision-making processes, b) shape investable, fair and socially legitimate project pipelines.
- Enable the design of innovative partnership models, so-called “Just Water Partnerships” by the Global Commission on the Economics of Water, that ensure a fair distribution of risks and benefits, mitigate reputational risks and align incentives and purpose among governments, investors, project developers and communities.
- Support capacity development in several crucial areas: systems thinking, society-oriented investment planning and procurement, design and valuation of multipurpose investment projects, fiduciary management, impact evaluation and blended-finance structuring to name a few.

- Enhance local capacities to develop project pipelines and activate local impact investment ecosystems through bootcamps and/or accelerated capacity development processes and tap collective intelligence across public, private and civil society organisations to achieve climate, water resilience and biodiversity goals along with economic well-being.
- Collaborating with EU research programmes and leading universities worldwide, develop a curriculum for a new generation of (strategic) infrastructure planners and asset managers, drawing on pioneering work in transdisciplinary infrastructure delivery and urban planning (through the Global Gateway and other cooperation venues). Enable the training and/or re-skilling of these professionals worldwide, particularly in emerging economies.
- Fund data-sharing systems, digital twins and monitoring frameworks to support adaptive governance
- Support the development of society-oriented procurement strategies that foster and shape new markets for new infrastructure and urban development approaches (for example decentralised, agile and nature-based) and financial instruments that lower transition risks (technology and/or governance arrangements).
- Develop easy-to-use guidelines for society-oriented investment origination and for designing fit-for-purpose implementation arrangements – including governance, funding, finance and procurement – for a new generation of multipurpose investments that advance water resilience alongside climate and nature goals, supported by a community of contacts to enable fast learning and replication across sectors.

ANNEX C: EMERGING APPROACHES AND PIONEERING EXAMPLES

1. Investment origination and planning

- A. The North Star Transition lab approach
- B. Meridiam's TURF co-development platform approach
- C. Multiutility model
- D. The African Water Facility: Accelerating bankable water investments
- E. GCF-IFC Scaling Resilient Water Infrastructure Facility: Integrating origination and blended finance at scale

2. National institutional models for planning and funding of water resilience

- A. The Dutch model (Netherlands): Aligning water governance, finance and spatial planning
- B. The Chilean model: Lessons from a mature public-private partnership framework
- C. The Danish experience: From centralised infrastructure to adaptive urban water systems

3. Tools and approaches to support decision-making

- A. France's methods for evaluating infrastructure externalities
- B. Systemic planning and prioritisation frameworks: BISON
- C. Digital platform for oversight of sustainable infrastructure preparation: SOURCE
- D. The Climate Resilience Demonstrator (CreDo): UK digital twin for systemic resilience

4. Funding and revenue-generating mechanisms

- A. Corporate water stewardship
- B. Funding water resilience: aligning revenue, risk and public capital
- C. Land value capture

FUTURE-PROOFING EUROPE'S WATER SYSTEMS: FROM VISION TO INVESTMENT

