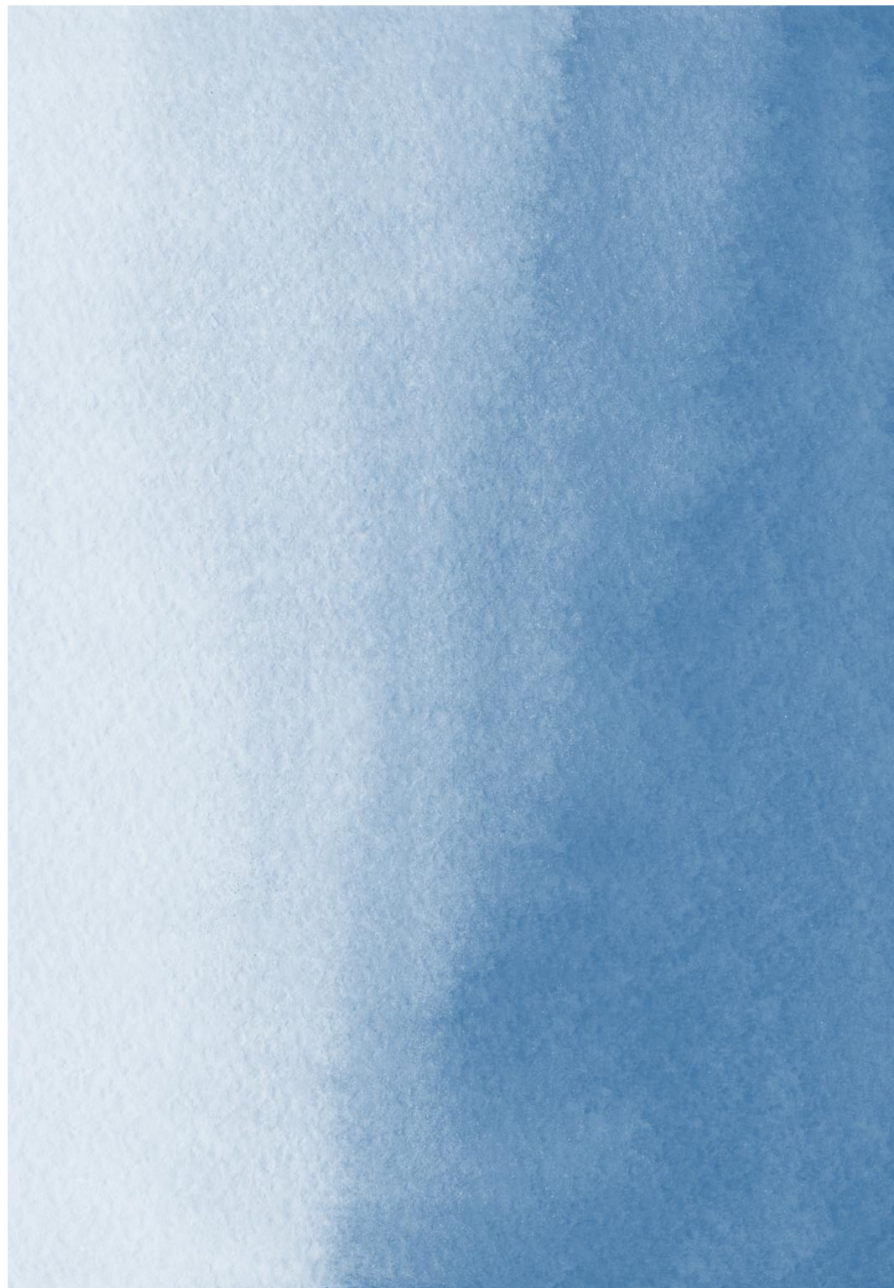


# BLUE DEAL

## Sectoral opportunities to achieve a Water-Smart Society in Europe

May 2023





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## EU Blue Deal

### SECTORAL OPPORTUNITIES TO ACHIEVE A WATER-SMART SOCIETY IN EUROPE

This document outlines what the EU Blue Deal should look like, based on emerging technologies and societal trends, which are expected to produce a paradigm shift in how we manage the planet's finite resources and the impact of climate change.

By 2030, the transition to a Water-Smart Society through a EU Blue Deal should be in full swing and be playing a leading role in Europe's twin transformation to a green and digital society, and climate neutrality.





# Introduction

**Water Europe welcomes European Economic and Social Committee (EESC)'s initiative to raise awareness on water and bring this topic higher on the EU agenda via a call for a EU Blue Deal.** A comprehensive strategy is instrument to address water-related challenges and build a water secure, resilient, and sustainable Europe for the next years.

As the EESC will adopt a set of opinions, addressing the topic from sectoral perspectives and making proposals. This policy-related paper from Water Europe aims to contribute to a EU reflection on key policies for achieving a Water-Smart Society.

Today, **65 million Europeans live in countries considered critically water insecure or water insecure**<sup>1</sup>. A so-call EU Blue Deal is more than ever needed and shall implement the outcomes of this year UN Water Conference, the first in 46 years.

This EESC initiative also follows a resolution from the European Parliament calling on the European Commission to present a comprehensive water strategy<sup>2</sup>. It stresses the need for a holistic approach on water-related challenges and opportunities in Europe.

**A EU Blue Deal must embody a cross-sectoral strategy involving a wide range of European stakeholders.** It shall set ambitious targets, in particular protecting biodiversity through an improved water management, involving inclusive governance models, integrating gender equality and citizen education dimensions.

**The European Union shall be a frontrunner in terms of water-related solutions.** During the last years, the EU institutions have been deploying the Green Deal to create a paradigm shift towards a green, resilient, and digitalised Europe.

Despite positive developments in the EU legislation, water-related risks have been underestimated and managed with a fragmented perspective. **Europe must go further!**

We believe that Europe must not close the Green Deal chapter but open a second one for a **Water-Smart Strategy which will put water – the main natural resource of our society, economy, and environment – at the heart of the EU agenda.**

**This EU Blue Deal shall recognise the value of water** to ensure water security, sustainability, and resilience. It will benefit for the different segment of the value chain as well as the whole society. Its internal and external dimension should put water at the heart of the next European Commission strategy. It will also contribute to public health by ensuring high water quality through reduction of pollution, microbiological threats, antibiotic-resistant bacteria (ARB) or other emerging pollutants.

**A Water-Smart Society** is one in which the value of water is recognised and realised to ensure water security, sustainability, and resilience; all available water sources are managed so that water scarcity and pollution are avoided; water and resource loops are largely closed to foster a circular economy and optimal resource efficiency; the water system is resilient against the impact of climate and demographic change; and all relevant stakeholders are engaged in guaranteeing sustainable water governance<sup>3</sup>.

# 66 million

European live in countries considered critically water insecure or water insecure.

*UN 2023 Global Water security Assessment*

<sup>1</sup> UNESCO, *The United Nations World Water Development Report 2023: partnerships and cooperation for water* (WWDR 2023), UNESCO, Paris, 2023, p.189.

<sup>2</sup> European Parliament resolution of 15 September 2022 on the consequences of drought, fire, and other extreme weather phenomena: increasing the EU's efforts to fight climate change (2022/2829(RSP))

<sup>3</sup> Water Europe, *Water vision 2023*, Brussels, 2023.



# Overview table

## THREE MAIN RECOMMENDATIONS

- Nomination of a EU Vice-President for water.
- Creation of a EU water fund.
- Make water exploitation index + (WEI+) fall below 20% in every EU sub-basin.

## RECOMMENDATIONS PER SECTIONS OF THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE

CCMI	NAT	ECO	
<ul style="list-style-type: none"> <li>▪ Mandatory water-related data disclosure (including water footprint, reuse, and efficiency rates) in cooperation with the EEA and Eurostat.</li> <li>▪ Industries' contribution to the EU objective of 3% GDP for Research and Innovation by 2035 to strengthen EU water sector competitiveness.</li> <li>▪ Establishment of action plans for each industrial plant on water saving and pollution prevention, in line with the relevant EU legislations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Development of a BREF for agricultural uses of water to support the reduction of water consumption.</li> <li>▪ Promotion of Nature-Based Solutions (NBS) first principle across Europe.</li> <li>▪ Development of an EU action plan to accelerate the synergies between rural and urban areas for water-related management.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adaptation of EU budget and taxation systems to endeavor water-smart economic trade-offs.</li> <li>▪ Support to European banks in developing “water-loans” for water-related progress in Europe.</li> <li>▪ Implementation of the conclusions EU studies on water economics to ensure resource conservation.</li> </ul>	
SOC	INT	TEN	REX
<ul style="list-style-type: none"> <li>▪ Active participation of citizens in water governance across Europe.</li> <li>▪ Development of an investment plan in water-related skills enhancing youth employment in the water sector.</li> <li>▪ Creation of European campaign to raise awareness on the value of water.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Investment in multifunctional sensors for monitoring water quality upstream and downstream water bodies.</li> <li>▪ Opening opportunities for water circularity in local ecosystems trough Europe.</li> <li>▪ Support SMEs' opportunities to export water-related innovative technologies in the EU market and beyond.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Secure access to water for green energy supply.</li> <li>▪ Water-related data interoperability by facilitating their exchange and communication across sectors throughout Europe.</li> <li>▪ • Consideration of water-related solutions in urban development plans and building projects.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nomination of an EU special envoy for water.</li> <li>▪ Promotion of Water-oriented Living Labs (WoLLs) to enable the transition towards Water-Smart Societies worldwide.</li> <li>▪ Support to world access to best water-related technologies with structural business platforms in particular.</li> </ul>



# Recommendations

The details of the main recommendations for the Blue Deal and per section of the EESC to achieve a Water-Smart Society in Europe.

## THE 3 MAIN RECOMMENDATIONS FOR A EUROPEAN BLUE DEAL

### **Nomination of a EU Vice-President for water.**

The nomination of a EU Vice-President in charge of water-related dossiers would reflect the EU's ambition on this topic. As water-related challenges shall be considered in a holistic and cross-sectorial approach, it would enable fully addressing the current and upcoming risks while strengthening EU's resilience. Breaking the silo will also unlock new opportunities for other sectors, especially with a vertical approach on water topics paired with a broader Commissioner's portfolio including critical resources and energy.

### **Creation of a EU water fund.**

A EU water fund can enhance processes for financing water-related policies' implementation, in particular through the harmonization of existing funding tools. Moreover, water-related solutions do exist and are demonstrated by EU-funded projects and need to be massively financed to achieve EU environmental ambitions once and for all, rather than lowering the ambitions and weakening European water security for the next decisive decades.

### **Make water exploitation index + (WEI+) fall below 20% in every EU sub-basin.**

Water scarcity affected 29% of the EU territory during at least one season in 2019 (EEA). The WEI+ determines water scarcity conditions in Europe, considering water demand and consumption, climatic conditions, and landscape and geological characteristics of the basins. It demonstrates that water scarcity is not limited to Southern Europe. Deploying the necessary solutions to reach less than 20% WEI+ in every EU sub-basin will allow avoiding water stress in Europe and ensuring sustainable growth.



## CONSULTATIVE COMMISSION ON INDUSTRIAL CHANGE – CCMCI

### **Mandatory water-related data disclosure for industrial plants (including water footprint, reuse, and efficiency rates) in cooperation with the EEA and Eurostat.**

Assessing their water risks will help industrial plants to be aware of their water risks and make the right investments for water security. The lack of transparent water-related data for industries is a major barrier to competitiveness. Disclosure will also boost research and development of innovative technologies.

### **Industries' contribution to the EU objective of 3% GDP for Research and Innovation by 2035 to strengthen EU water sector competitiveness.**

This objective of 3% GDP for Research and Innovation adopted in the EU's ten-year-strategy from 2010 has still not been achieved. Industry shall contribute to this achievement, being one of the main water users in Europe. Moreover, Research and Innovation is a paramount driver for improving European industries' resilience and maintaining their competitiveness facing water risks.

### **Establishment of action plans for each industrial plant on water saving and pollution prevention, in line with the relevant EU legislations.**

Action plans enable the setting up of measures necessary to achieve the EU objectives. They must be done in accordance with internal audits regarding water consumption and emissions to water. They guarantee the correct implementation of EU legislation and will unlock new economic opportunities.



# Recommendation

## AGRICULTURE, RURAL DEVELOPMENT AND THE ENVIRONMENT – NAT

### **Development of a BREF for agricultural uses of water to support the reduction of water consumption.**

Best available techniques (BAT) reference documents (BREF) constitute a major opportunity for reducing water consumption and emissions to water in Europe. Over 40 % of the EU's water use is on agriculture, which highlights the need for a BREF focused on water consumption as well as contamination of water bodies from agricultural practices.

### **Promotion of the “Nature-Based Solutions (NBS) first” principle across Europe.**

By taking advantage of ecosystem services, nature-based solutions (NBS) are a cost-effective way to address several societal challenges at once while protecting biodiversity. They maintain themselves using the nature cycle and thus shall be privileged in a risk-based approach.

### **Development of an EU action plan to accelerate the synergies between rural and urban areas for water-related management.**

Urban development in Europe leads to increasing water allocation conflicts between rural and urban areas. The EU shall strengthen synergies between both areas in water-related solutions. For instance, protecting water resources in rural areas contributes to sustainable urbanization, ensuring food, energy, and water for instance.

## ECONOMIC AND MONETARY UNION, ECONOMIC AND SOCIAL COHESION – ECO

### **Adaptation of EU budget and taxation systems to better consider water-smart economic trade-offs.**

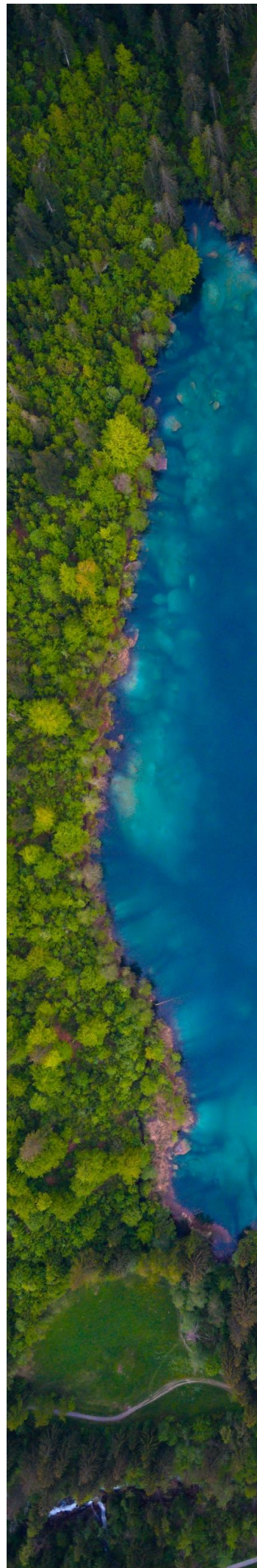
Improving water management in Europe requires full consideration of water economic trade-offs. Water-related impacts shall be covered when assessing investment opportunities. Water-smart investments can lead to environmental benefits while a lack of consideration of water within EU funding instruments can cause indirect economic losses.

### **Support to European banks in developing “water-loans” for water-related progress in Europe.**

New funding opportunities shall be provided to stakeholders investing in sustainable water-related projects. As the benefits may be longer term than in other areas, “water-loans” should offer sustainable and advantageous opportunities for water-related projects.

### **Implementation of the conclusions EU studies on water economics to ensure resource conservation.**

The Water Framework Directive requires Member States to recover the financial, environmental and resource costs of using water. However, financing water-related measures is still a major barrier in the implementation of the Directive. A better use of insights from water economics can ensure that available financial resources are used effectively and thus support water resource management in compliance with the Directive.





# Recommendation

## EMPLOYMENT, SOCIAL AFFAIRS AND CITIZENSHIP – SOC

### **Active participation of citizens in water governance across Europe.**

Participation of users and communities helps ensure sustainable solutions for all aspects of SDG 6 and contributes to equality within and among countries (UN WWDR 2023). Citizens' active participation in water governance enhances inclusive, transparent, and equitable decision-making.

### **Development of an investment plan in water-related skills particularly enhancing youth employment in the water sector.**

Human resources challenges within the water sector threaten the achievement of EU water-related objectives. To ensure the implementation of these ambitions an investment plan shall focus on upgrading skills in this sector and making it attractive for European youth.

### **Creation of European campaign to raise awareness on the value of water.**

Individual behaviors are paramount drivers for full recognition of the Value of Water to ensure resource protection. The European Union shall lead a large campaign to raise awareness of the water-related challenges in Europe and what needs to be done, through citizens' involvement.

## SINGLE MARKET, PRODUCTION AND CONSUMPTION – INT

### **Investment in multifunctional sensors for monitoring water quality upstream and downstream water bodies.**

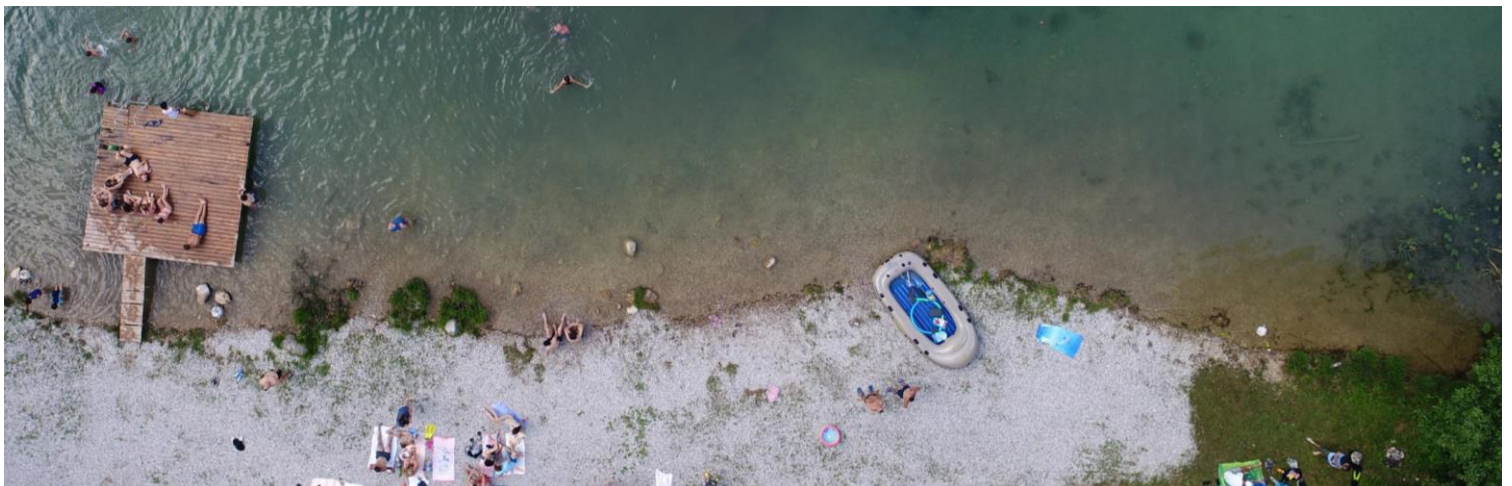
Studies identified the lack of advanced water quality monitoring in EU water bodies as one of the main causes of ecological disasters due to water pollution (EEA, Pollution in Europe's rivers). Indeed, multifunctional, and numerous sensors can quickly prevent damage downstream due to upstream accidents. It is also a way to enhance water-related studies with rigorous database.

### **Opening opportunities for water circularity in local ecosystems throughout Europe.**

Several EU-funded projects have already demonstrated great opportunities for water reuse in local ecosystems. These outcomes shall be considered in EU legislation to promote circular practices in Europe. Where appropriate, the legislative or market barriers to water reuse shall be unlocked, between industrial, agricultural, and domestic uses of water.

### **Support SMEs in stimulating markets with water-related innovative technologies.**

EU competitiveness on the water sector relies also in SMEs' opportunities to export their innovations. Their integration into water-related markets shall be enhanced. In line with the principles of the single market, they shall also be helped in getting access to every national market as soon as their innovations are in line with EU objectives and standards.



# Recommendation

## TRANSPORT, ENERGY, INFRASTRUCTURE AND THE INFORMATION SOCIETY – TEN

### **Secure access to water for green energy supply**

Water is a critical resource for green energy supply. The water-energy nexus shall be effectively considered in EU legislation and strategies to secure green energy production. Collaborative and innovative tools can be used, such as circular processes and water reuse technologies.

### **Water-related data interoperability by facilitating their exchange and communication across sectors throughout Europe.**

European cooperation on water protection relies on our capacity to exchange data within the EU. Their interoperability shall be enhanced through digitalization, and it will particularly help to reduce water risks and strengthen decision-making. It will also strengthen EU databases and thus Research and Innovation.

### **Consideration of water-related solutions in urban development plans and building projects**

Urban development faces increasingly frequent water-related challenges in Europe. When designing urban development plans or new building projects, their impact on water bodies shall be fully considered. Enhancing cities' resilience shall be required, by promoting NBS to address floods or water reuse technologies in buildings for example.

## EXTERNAL RELATIONS – REX

### **Nomination of an EU special envoy for water**

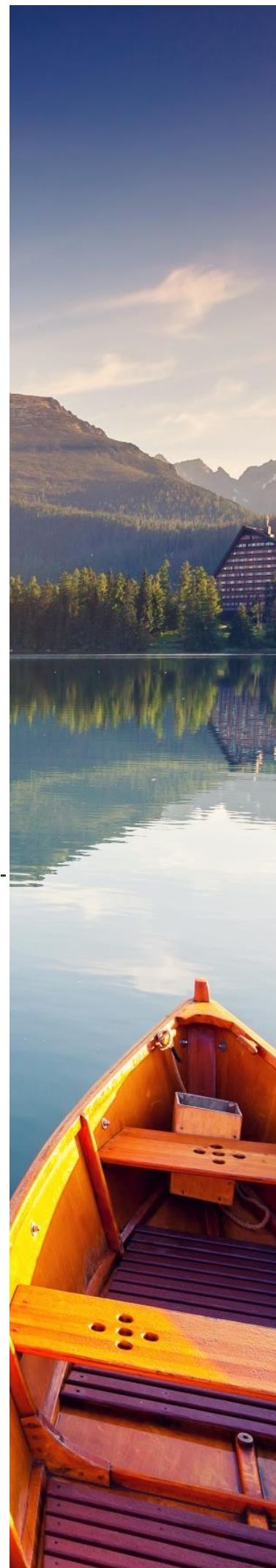
Many States, including within the EU, already appointed special envoys for water. The EU must take an international lead on water challenges through such an appointment. It is also important to make clear that the EU can have one same voice on water topics at the international level, especially following EU's proactive involvement in the UN Water Conference.

### **Promotion of Water-oriented Living Labs (WoLLs) to enable the transition towards Water-Smart Societies worldwide.**

Water-oriented Living Labs (WoLLs) enhance co-creation, validation, and deployment of innovations to achieve a Water-Smart Society (UN WWDR 2023). They can work on the integration of technologies with new business and governance models, and on innovative policies to address water challenges through global cooperation.

### **Support to world access to best water-related technologies with structural business platforms in particular**

Water and wastewater facilities are not standardized but rather complex engineered systems that depend on specialized technologies with components universally sourced to guarantee a reliable supply. Relevant tools shall be strengthened to ensure a free and global water-related technologies market. European industries shall be given the opportunity to promote their innovations worldwide





# Best Practice

Investing in research and development to find and deploy technological solutions is key. Below four examples of EU Research projects that demonstrate the feasibility and limits of circular nutrient management.

## MULTISOURCE



MULTISOURCE is an EU-funded project conducted from 2021 to 2025 that brings together 20 partners from 12 countries to create innovative tools, methods, and business models to support citywide planning as well as long-term operation and maintenance of nature-based solutions (NBS) for water treatment, storage, and reuse in urban areas worldwide. With seven pilots treating a wide range of urban waters, this project delivers new knowledge about enhanced natural treatment solutions (ENTS) and their ability to make cities more resilient to climate change, to remove waterborne contaminants and provide effective risk reduction for chemical and biological hazards.

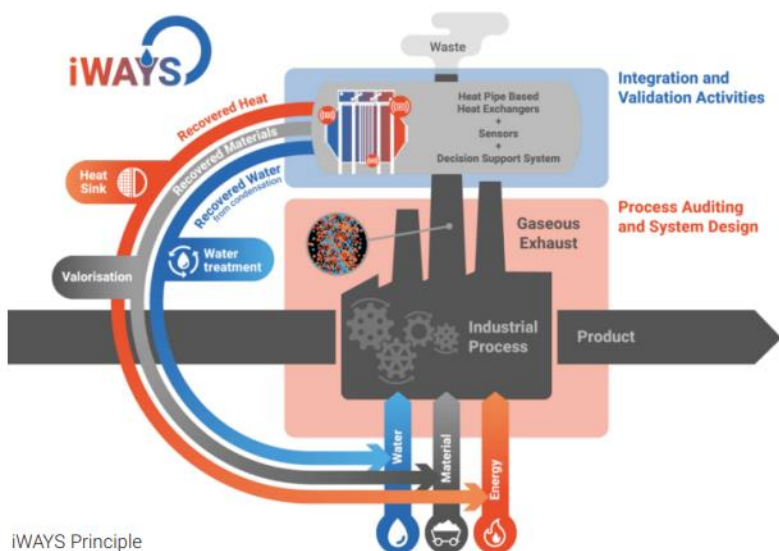
The MULTISOURCE project has several objectives, all contributing to a Water-Smart Society and addressing challenges such as unsustainable urbanisation climate change, biodiversity loss, and degradation of the ecosystem services. From these objectives, the following results are expected to contribute to climate change mitigation, by promoting NBS which can capture CO<sub>2</sub>, and climate change adaptation, by promoting NBS which allow to reduce the pressure on urban sewage systems through local water retention and treatment, then increasing water availability:

- Allow successful pollution control of waterborne contaminants through ENTS and their strategic placement.
- Reduce chemical and biological risks and strengthen the status of urban habitats.
- Co-create tools, business models and guidance to adopt and maintain NBS for urban water treatment.
- Offer policy recommendations to safely reuse water in urban areas.
- Ensure gender equality and inclusivity in NBS research and implementation.
- Export the sustainable development in urban water management.

Learn more [here](#).



Figure – *iWAYS* principle



iWAYS Principle

## iWAYS



iWAYS – Innovative Water recoverY Solutions through recycling of heat, materials, and water across multiple sectors – is a EU funded project under grant agreement N958274, aiming at developing a set of technologies and systems for industrial processes in order to recover water heat, and in some cases materials, from exhaust streams.

The project provides water-smart solutions to recover water, recycle heat, materials across multiple sectors. It will also contribute to the reduction of CO<sub>2</sub> emissions, water pollution and the exploitation of the value in water.

The project is working with three demo cases in three different countries and industrial sectors: ceramic industry, chemical industry, and steel industry.

iWAYS encourages policymakers to support circular approach, deploy digital water to develop a circular economy model, and encourages the relevant stakeholders to consider its technology and outcomes in the Sevilla Process.

Learn more [here](#).

# Best Practice

ARSINOE



ARSINOE is an EU funded innovation action that brings together 41 partners from 15 countries and intends to be a game-changer for shaping pathways to resilience by delivering regional innovation packages to develop and implement innovative climate change adaptation measures and solutions in nine different case studies. It aims to leverage innovation for climate adaptation across a series of key systems – from biodiversity to flooding and sea level rise and from droughts and water scarcity to heatwaves and deforestation.

The four-year ARSINOE project will develop a methodological framework transferable to other cases thanks to the combination of three approaches:

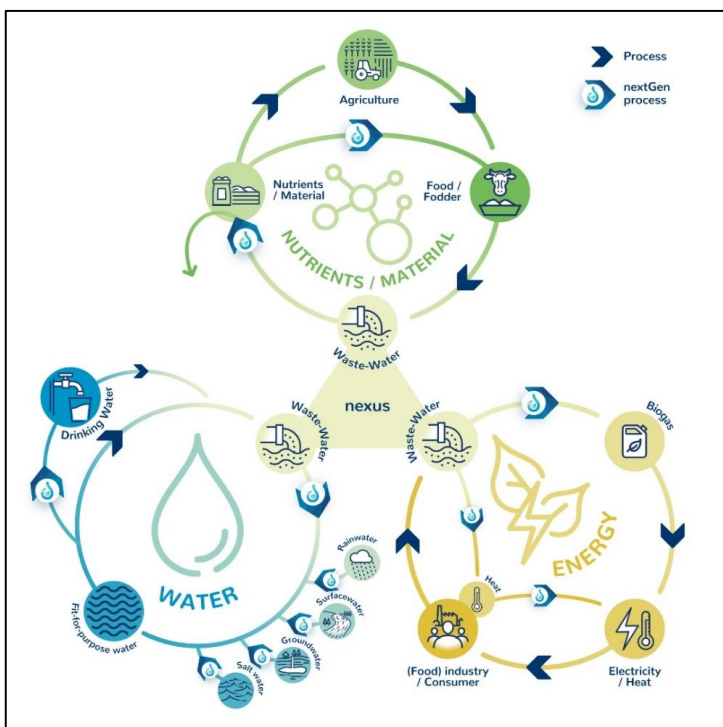
- Systems innovation approach
- Climate innovation window
- Climate change adaptation solutions in the innovation packages

ARSINOE offers beneficial insights for policy makers on the EU level. It highlights the necessity of systemic thinking and holistic approaches when addressing climate change adaptation. Moreover, case studies can offer insights into the implementation of single EU policies and how they might need to be adapted to support the transformation in line with the goals of the EU Green Deal. Lastly, the project will offer further evidence on the effectiveness of nature-based solutions for tackling climate-related risks.

Learn more [here](#).



Figure – energy-water-nutrients nexus



ULTIMATE



Ultimate is a project financed by the European Union's Horizon 2020 research and innovation programme (agreement No. 869318). The aim is to create economic value and increase sustainability by valorising resources within the water cycle.

In the demo case 5, partners are comparing the performance of two bioreactor prototypes. Both prototypes have the potential to establish new industry benchmarks for water reuse, energy, and material recovery.

Brewery wastewater is also rich in nutrients that can help produce fertilizer. A concept study is being conducted to assess materials recovery strategies from compounds in brewery wastewater and to find suitable value chains.

By setting goals to create safe and sustainable loops when closing nutrients cycles with clear criteria, the INMP will encourage this type of assessment to accelerate nutrients recovery and identify suitable local markets.

Learn more [here](#).



