

# Electronic Town Meeting (e-TM)

Valuing Water from different perspectives:  
the role of Integrated Water Resources  
Management (IWRM)

Agenda and supporting material for the  
parallel sessions

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Autorità Idrica Toscana, Via Verdi n. 16 (first floor)



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## Agenda of the Electronic Town Meeting (e-TM) on “Valuing Water from different perspectives”

9:30-9:50	Welcome by the General Manager of Autorità Idrica Toscana.
9:50-10:10	Sharing of objectives and rules of the e-TM
10:10-10:30	<b>Plenary session:</b> introductory report by FTS, framing the challenges of water system governance and regulation.
10:30-11:30	<b>Parallel sections (Part 1)</b> working groups discussing status, progress and barriers related to the Integrated Water Resources Management (IWRM), specifically focusing on institutional frameworks, regulatory enforcement, and multi-level governance.
11:30-12:30	<b>Parallel sections (Part 2):</b> working groups discussing action needed and way forward for a smarter water management, emphasising innovative regulatory models, public-private partnerships, and stakeholder engagement in governance.
12:30-13:30	<b>Plenary session,</b> with brief presentations of the results from each working group
13:30-14:30	Break
14:30-15:30	<b>Plenary session,</b> with presentation of the drafted Position Paper, focusing on recommendations for improving the governance and regulation of the Integrated Water System.
15:30-16:00	<b>Plenary session,</b> with voting of the final Position Paper “Towards a smarter water management in Europe”.

# Supporting material for parallel sections

## Parallel sections - Part 1: Status, progress and barriers

### Questions for discussion:

1. What is the concept of Integrated Water Resources Management (IWRM) and why is it considered essential for sustainable development?
2. What is the global status of IWRM implementation measured by SDG indicator 6.5.1 in 2023, and what are the future projections?
3. What are the main barriers to IWRM implementation?
4. What are the four dimensions of IWRM and what is their status of progress at a global level?
5. Why is it critical to integrate IWRM approaches into climate change adaptation efforts?
6. What are the main barriers to coordinating climate and water action?
7. What is the primary disconnect between global commitments for sustainable water management and national-level action?

### Suggested answers:

- 1. What is the concept of Integrated Water Resources Management (IWRM) and why is it considered essential for sustainable development?**

Suggested answer: IWRM is an internationally recognized approach that aims to balance competing water needs from various sectors of society and the economy, without compromising the sustainability of vital ecosystems upon which our lives and livelihoods depend. It requires coordinated action across sectors, at all levels, and across borders. IWRM can directly support countries in becoming more resilient to climate change and advancing towards all water-related targets in Agenda 2030.

- 2. What is the global status of IWRM implementation measured by SDG indicator 6.5.1 in 2023, and what are the future projections?**

Suggested answer: The average global score for IWRM implementation in 2023 is 57%. At the current rate of progress, the world is not projected to achieve the sustainable water management target (91% implementation) until at least 2049, which is 25 years from now. By 2030, at least 3.3 billion people and the economies of over 100 countries are unlikely to have effective governance frameworks to balance competing water demands and cope with increasing pressures, including from climate change.

- 3. What are the main barriers to IWRM implementation?**

Suggested answer: The primary barrier is insufficient financing, which constrains institutional capacity, monitoring networks, and the application of management instruments. Specifically, ineffective revenue collection for water management and infrastructure is a problem in 85% of countries.

- 4. What are the four dimensions of IWRM and what is their status of progress at a global level?**

Suggested answer: The four dimensions are:

- Policies, laws, and plans: Many countries are making progress in developing laws and policies, but often lack the financial, institutional, and technical capacity to implement them.
- Institutions and participation: Institutional gaps remain a barrier in many countries, with 40% having "low" or "low-medium" implementation.
- Management instruments: Management frameworks and tools at the basin level often lag behind those at the national level.
- Financing: This is the dimension that has seen the slowest progress between 2020 and 2023 and represents the main obstacle for most countries with low or low-medium IWRM implementation.

### **5. Why is it critical to integrate IWRM approaches into climate change adaptation efforts?**

Suggested answer: Taking an IWRM approach is a great opportunity to build resilience to climate change impacts because it facilitates coordination between the water and climate sectors and boosts resilience across all relevant sectors. It also helps in cost-effective planning, as prevention is cheaper than cure. Integrated planning, action, and investment for both climate change adaptation and IWRM avoid higher costs from losses and damages and increase the efficiency of a country's response to water-related disasters.

### **6. What are the main barriers to coordinating climate and water action?**

Suggested answer: While most countries acknowledge the strong links between water and climate, there is significant untapped potential for stronger links. The main barriers are:

- Lack of coordination between water and climate authorities.
- Insufficient human, institutional, and technical capacity for integrating IWRM as a climate adaptation solution.
- A gap in policy and action planning.
- A lack of financing to address these barriers.

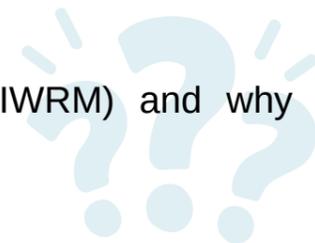
### **7. What is the primary disconnect between global commitments for sustainable water management and national-level action?**

Suggested answer: Political commitments at the global level for sustainable water management have never been higher, but they have not been matched by the required finance or action on the ground. The value of implementing IWRM is often poorly understood at the highest national level where resource allocations are made. This lack of understanding results in inadequate funding and action, despite the high benefit-cost ratios of investing in water management.

## **Parallel sections - Part 2: action needed and way forward**

### **Questions for discussion:**

1. What is the concept of Integrated Water Resources Management (IWRM) and why is it considered essential for sustainable development?
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6. What are the main barriers to coordinating climate and water action?
7. What is the primary disconnect between global commitments for sustainable water management and national-level action?
8. Suggested answers:
9. What is the concept of Integrated Water Resources Management (IWRM) and why is it considered essential for sustainable development?



## Suggested answers:

### 1. What are the three principles for achieving efficiency, equity, and environmental sustainability in water governance?

Answer: The three principles are:

- Value water for the essential services it provides.
- Establish absolute limits to ensure the sustainability of water resources.
- Develop policy packages to promote synergy, recognizing that no single policy can achieve the competing requirements of efficiency, equity, and environmental sustainability on its own.

### 2. What key actions are recommended to better coordinate climate and water action?

Answer:

- Coordinating planning and management between sectors through an IWRM approach to better adapt to climate change impacts. This includes enhancing human and technical capacity, sharing data, and coordinating financing and priority-setting.
- Using climate financing to implement coordinated water management and cross-sectoral climate resilience projects.

### 3. What are the main challenges and opportunities related to the governance of water utilities?

Answer: Challenges include substantial efficiency losses, which can amount to hundreds of billions of dollars globally due to unspent public funds and operational inefficiencies. Opportunities lie in transforming water utilities into "mission-centered" entities that balance the interests of the utility with wider public policy goals, such as water justice.

### 4. What does it mean to shift from "fixing markets to shaping economies" in the context of water?

Answer: This shift means moving from a reactive approach—fixing problems after they occur—to a proactive one where economies and markets are shaped from the start to use and allocate water efficiently, equitably, and sustainably. This involves designing property rights, partnerships, and financial structures to deliver on these objectives from the outset.

### 5. What does it mean for a water utility to be "mission-centered"?

Answer: A "mission-centered" water utility is one that embeds public value in its governance and aims to achieve specific missions, such as ensuring universal access to safe and affordable water and promoting water system justice. This involves prioritizing public health, equitable access, and ecosystem health over purely profit-driven motives.

### 6. What actions are recommended to address the financing gap for IWRM?

Answer: Key actions:

- Develop and implement revenue-raising and cost recovery arrangements, including cross-sectoral approaches.
- Demonstrate that investments in water management and infrastructure support other economic sectors to secure greater allocations from national budgets.
- Coordinate these actions for greater impact, for example by using the WEF nexus lens to show how water investments benefit food and energy production.

### 7. How can tariffs be used to improve the governance of water utilities?

Answer: Tariffs for water supply and sanitation services can be used to promote financial sustainability while ensuring that the poor have access to affordable water. This involves carefully designing tariff structures to meet multiple objectives simultaneously, such as covering costs, encouraging conservation, and maintaining affordability for all citizens.

## Parallel sections - Part 2: drafting of the Position Papers for each group

Based on discussion held, each Position Paper should be structured according to the following:

### Group 1 - Sufficient, good-quality water: ensuring everyone has enough clean water.

1. Brief introduction
2. **KEY CONCEPT N.1** - Circular Water: circular water system that minimises water losses, captures and exploits the value in water, and fosters.
3. Brief introduction and key actions
4. **KEY CONCEPT N. 2** - Multiple Waters: incorporate a wide range of water sources and qualities (groundwater and surface water, rainwater, brine, grey water, black water, recycled water) into a water secure, resilient and sustainable water system.
5. Brief introduction and key actions

### Group 2 - Optimised water-system management: improving how we manage and operate water systems.

1. Brief introduction and key actions
2. **KEY CONCEPT N.3** - Digital Waters: exploit the benefits of the interconnectivity of people, devices and processes, and create capillary networks capable of monitoring the water system, starting at its multiple sources through to the individual enduser, thus generating continuous flows of valuable data for innovative decision-support systems at different governance levels.
3. Brief introduction and key actions
4. **KEY CONCEPT N.4** - Inclusive Waters: establish a water system whose governance balances the interests of all stakeholders in its design, management and maintenance.
5. Brief introduction and key actions



## Suggested contents

### Group 1 - Sufficient, good-quality water: ensuring everyone has enough clean water.

The future of Europe hinges on a fundamental re-evaluation of how we manage our most vital resource: water. Climate change, population growth, and economic transitions are placing unprecedented pressure on our water systems, threatening their security, resilience, and sustainability. It is necessary a strategic vision that moves beyond the outdated linear model of water use to one that is circular, efficient, and forward-looking. This paradigm is built on two core pillars that will ensure a sufficient and high-quality water supply for all.



#### Key Concept 1: Circular Water

The Circular Water concept is the cornerstone of a sustainable water future. It is a paradigm shift away from the linear "take-use-dispose" model to a closed-loop system that minimizes water losses, captures and exploits the value embedded in water, and fosters a resilient water system. This approach redefines wastewater not as a problem to be disposed of, but as an opportunity to recover valuable resources such as energy, materials, and nutrients.

Key actions under this concept include:

- **Waste-to-value transformation:** wastewater treatment plants must evolve into "resource factories." For example, these facilities can become energy neutral or even net energy producers by recovering hydrogen and other materials.
- **Resource recovery:** we must scale up the recovery of critical raw materials like phosphates, ammonium, and nitrogen from wastewater, thereby reducing reliance on non-renewable sources and closing resource loops.
- **Water reuse and recycling:** by 2030, the vision is to see more than 30% of Europe's water demand met by recycled and reused water. This will be achieved through innovative technologies that make water reuse safe and economically viable, particularly in industrial and agricultural sectors, reducing the pressure on natural water bodies.
- **Smart symbiosis:** promoting industrial and urban symbiosis will enable the sharing and reuse of water between different entities, decreasing overall freshwater demand by up to 50% in key sectors.



#### Key Concept 2: Multiple Waters

A resilient water system cannot rely on a single source. The Multiple Waters concept champions a holistic approach that integrates a wide range of water sources and qualities into a single, cohesive system. This strategy ensures a diversified and stable water supply by:

- **Diversifying sources:** utilising non-conventional water sources such as rainwater harvesting, brackish water, and reclaimed water from urban and industrial processes. This reduces reliance on conventional surface water and groundwater, which are increasingly vulnerable to climate change.
- **Fit-for-use principle:** this concept involves matching the quality of water to its specific end-use. For instance, while drinking water requires the highest quality, recycled greywater or rainwater can be used for irrigation, industrial processes, or toilet flushing. This approach optimizes resource allocation and preserves high-quality water for where it is most needed.
- **Increased system resilience:** by diversifying water sources, a society becomes more resilient to shocks such as droughts or supply disruptions. It also enhances water security, as communities are not dependent on a single, potentially unreliable source. The goal is for alternative sources to meet over 30% of total water demand by 2030.

## **Group 2 - Optimised water-system management: improving how we manage and operate water systems.**

To achieve the goals, the management and governance of water systems must be optimised. This requires embracing digital technologies and fostering a collaborative, inclusive governance model that balances the interests of all stakeholders.



### **Key Concept 3: Digital Waters**

The Digital Waters concept harnesses the full potential of interconnectivity to create a smarter, more responsive, and efficient water system. This involves a comprehensive digital transformation that integrates data, devices, and processes from every part of the water cycle.

Key elements of this transformation include:

- **Capillary monitoring networks:** deploying a vast network of sensors across the entire water system—from natural sources and treatment plants to distribution networks and end-users. This will generate continuous, real-time data flows on water quality, quantity, and infrastructure status.
- **Innovative decision-support systems:** this data will be used to create advanced analytics and decision-support systems. These tools will enable managers to make more informed, data-driven decisions on everything from resource allocation and leak detection to predictive maintenance of infrastructure.
- **Real-time control and optimisation:** digital twins and intelligent control systems will allow for the real-time optimization of water treatment and distribution, reducing energy consumption and operational costs. For example, by analyzing water flow and demand, systems can proactively adjust pump speeds and valve settings.
- **Enhanced transparency:** data-driven systems will improve transparency and accountability, allowing for better tracking of water quality and usage, which can inform public policy and consumer behavior.



### **Key Concept 4: Inclusive Waters**

Effective water governance is not a top-down exercise; it is a collaborative process that engages all stakeholders. The Inclusive Waters concept is a multi-stakeholder governance model that ensures a balance of interests in the design, management, and maintenance of the water system. This approach fosters a sense of shared responsibility and ownership.

Key components include:

- **Collaborative platforms:** establishing platforms where public authorities, private companies, researchers, and citizens can co-create and test innovative water solutions. This promotes synergy and ensures that solutions are both technically sound and socially acceptable.
- **Empowered stakeholders:** providing all stakeholders with access to data and educational resources empowers them to become active participants in water management. This includes developing user-friendly digital tools that allow citizens to monitor their water consumption and report issues.
- **Cross-sectoral synergy:** facilitating collaboration across the water-energy-food-ecosystem (WEFE) nexus. This means breaking down traditional silos and promoting a holistic approach where decisions in one sector are made with an understanding of their impact on others.
- **Adaptive governance:** implementing governance frameworks that are flexible and adaptable to evolving challenges. This involves moving away from rigid, long-term plans towards dynamic management systems that can quickly respond to new data and changing conditions, such as climate-related events.