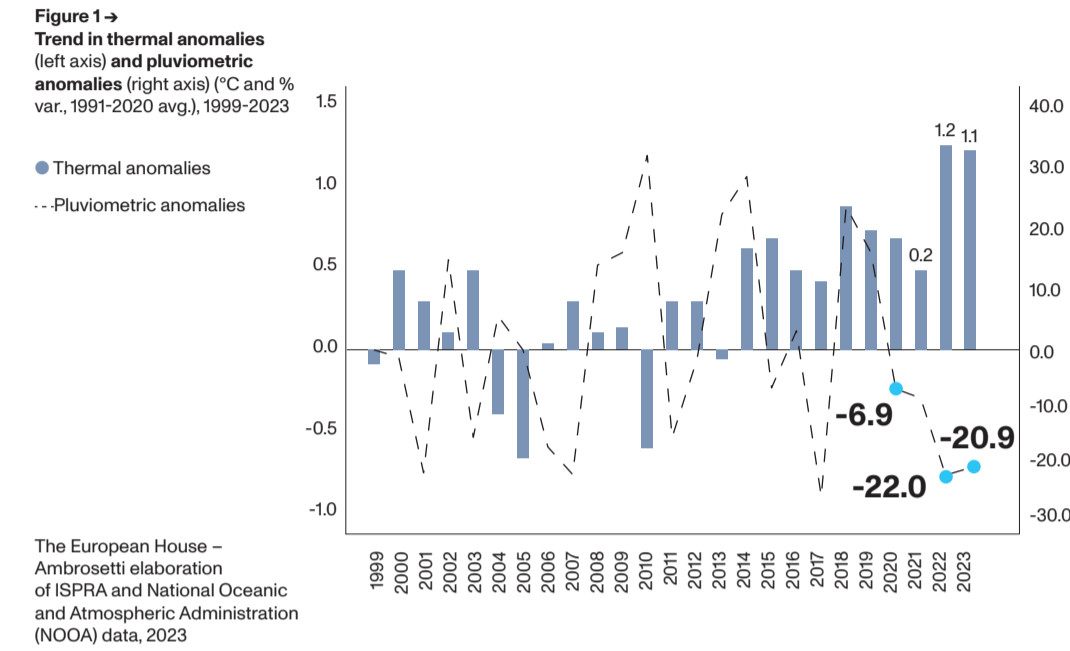


→ The Community's Mission
 To be the multi-stakeholder think tank to develop scenarios, strategies and policies in support of the extended water supply chain in Italy and its development to aid Italy in becoming a European and world benchmark

1 Why, today, we need to talk about water

→ The year 2023 saw a double negative all-time record on a global scale. July 3, 2023 registered the **global record temperature**, which was immediately surpassed on July 4, 2023

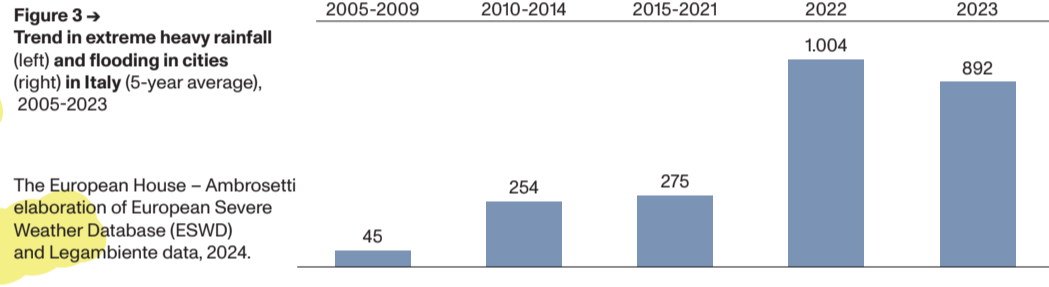
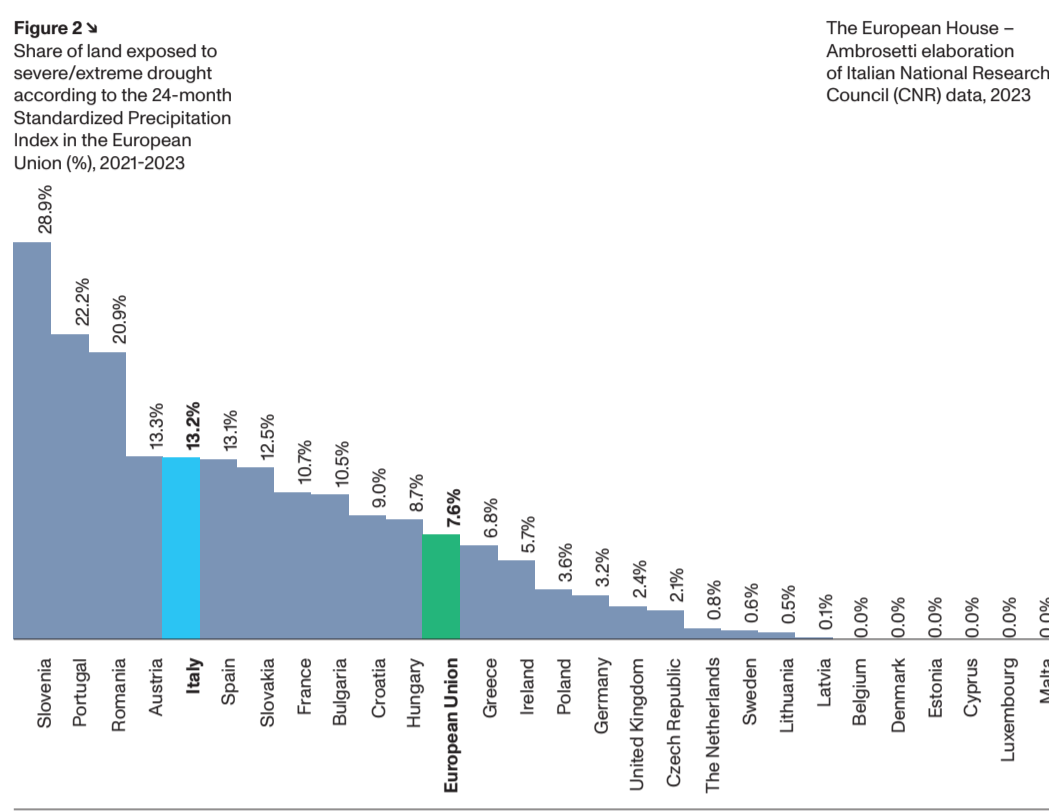
→ **Italy** is not immune to climate change. The year **2022** was the **hottest and driest in history** and 2023 confirmed this trend, with temperatures up **+1.12°C** on the period 1991-2020



→ Italy ranks **5th** among EU-27+UK Countries for the share of its territory exposed to severe/extreme drought in the last two years

→ But rainfall is not only less-frequent, it is also becoming more intense. **Intense rainfall** peaked at **1,004** events in 2022, with an annual growth of **+50.2%** since 2005

→ In 2022, the impact of extreme events on crops resulted in a loss of **€5.6 billion**



2 Snapshot of water management in Italy and value of the extended value chain

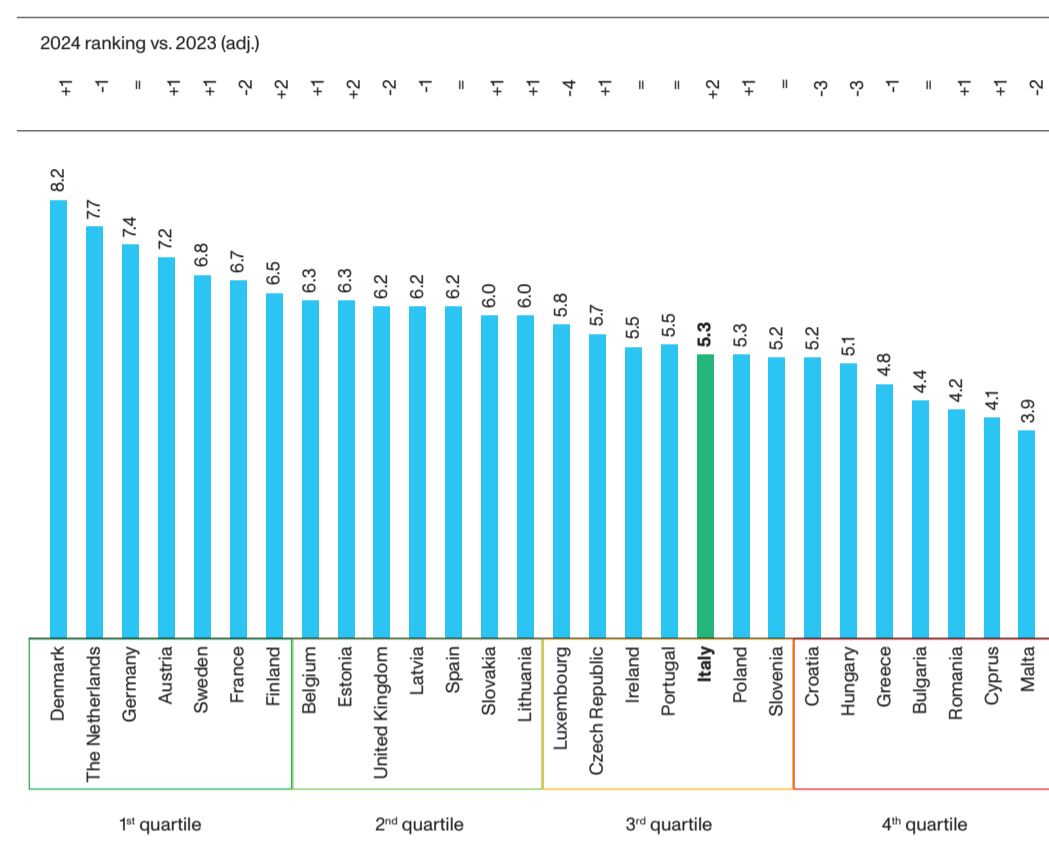
→ To provide an overview of light and dark areas of water resource management in Italy compared with the rest of Europe, the Community created a **composite indicator** which includes **39** Key Performance Indicators (KPIs) that are objective and measurable over time

→ Water impacts on **10** of the 17 United Nations Sustainable Development Goals and **53** of the 90 targets

→ Italy is ranked **19th** out of the 28 Countries included in the "Value of Water for Sustainable Development" (VWSD) 2024 index, with a score of **5.3**

→ Italy rose **+2** places in the 2024 VWSD compared with the adjusted 2023 VWSD

Figure 4 → 2024 Value of Water for Sustainable Development index (EU-27+UK Countries; scale from 1=min to 10=max)



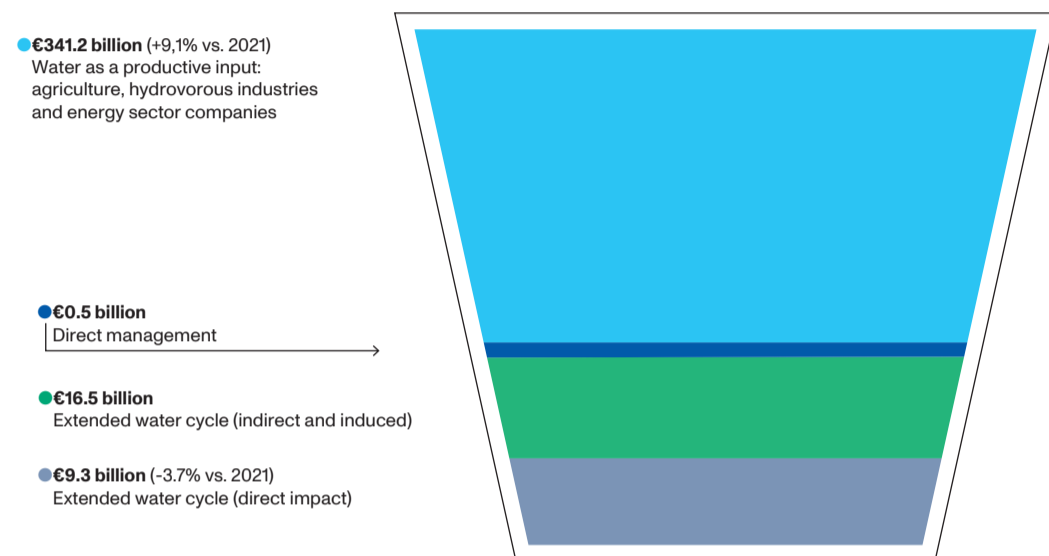
→ The extended water value chain involves **26 2-digit ATECO codes** and **74 3-digit sub-codes**

→ Water is a primary productive input for **1.4 million** agricultural enterprises, approximately **330,000** water-intensive manufacturing companies and over **10,000** energy sector companies

→ In 2022, the extended water cycle generated **€9.3 billion** in Added Value, with an average annual growth rate of **3.8%** over the period 2010-2022, double the manufacturing rate and Italian GDP

→ Without water resources, **19%** of Italian GDP could not have been generated

Figure 5 → Value added generated by the extended water supply chain in Italy, 2022



Water was the catalyst for the generation of **€367.5 billion** of Added Value in Italy in 2022 (+8.7% vs. 2021)

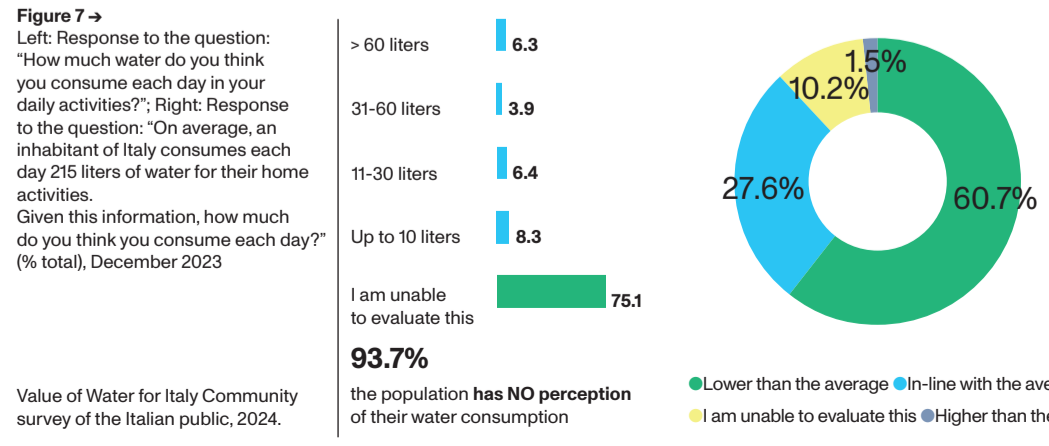
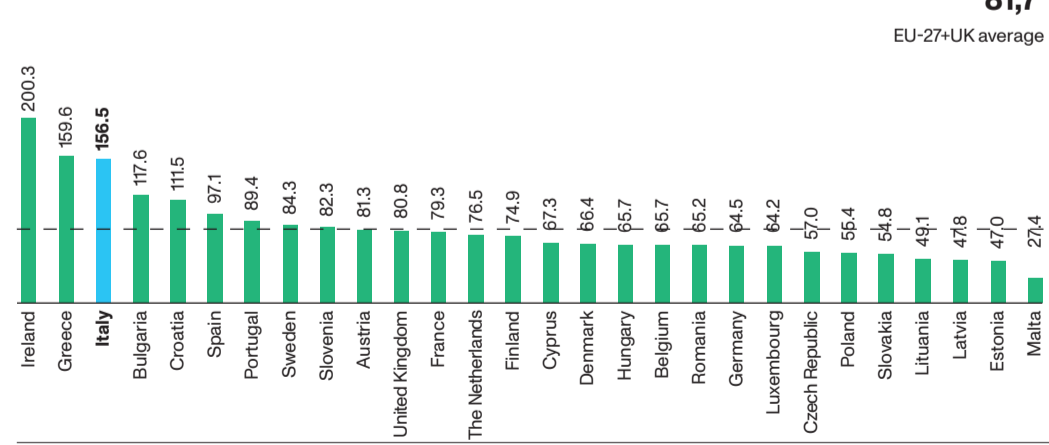
→ Italy is also one of the Countries most exposed to **water stress in Europe**. Together with Cyprus, Belgium, Greece, Spain and Portugal it is one of the top in the EU whose surface area has a level of **water stress greater than 80%**

3 How to promote a new water culture in Italy

→ **Lack of awareness and perception** of the Italian public regarding the real value of water as a resource is one of the main reasons for its high consumption levels

→ The Community decided to take an **active role** in educating the population, starting with young people, through a **pilot project** in Italian schools that involved **over 5,000 students**

Figure 6 → Drinking water withdrawals per inhabitant in EU-27+UK countries (m³ per inhabitant), 2021 or latest year available



→ To guarantee the long-term availability of water through promoting **water efficiency** in all phases of the value chain, the **"Circular Water"** model must be adopted

	Key points	Priority action
Resource collection	33% of the capacity of major dams is not fully used due to siltation	Increasing dam efficiency and constructing small reservoirs
Replenishing aquifers	91% of the surface area of underground aquifers and 19% of underground bodies of water are facing scarce water supply	Reduce withdrawals by focusing on water reuse
Distribution	Water leakage is 41.2% of the total water distributed	Tracing data along aqueducts and performing repairs
Sludge treatment and management	1.3 million people in Italy have no treatment service and 1.5 million tons of treatment sludge are disposed of each year	Increase in treatment capacity, increase in reuse/recovery and sludge treatment
Desalination	7.6% of EU production capacity (2 nd -ranked Country), but just over 657,000 m³ per day	Upgrading and replacement of desalination plants

→ **Technology** has the potential to be the enabling factor to promote the sustainable and circular transition of the extended water supply chain through processes and products that control withdrawal and make the available infrastructure more efficient, including from the standpoint of energy use. From this perspective, the **"Smart&Digital Water"** model is the perfect complement for facing the challenges the sector has taken on

→ Technological innovation refocuses attention on data, thus opening the way to the publication of a **national water budget**. According to Community findings, only **4 out of 7** Italian Basin Authorities have published an accessible water budget, the most recent being in 2020

Strategic Report 2024

Value of Water

5th Edition

Conceptual map of the Study

Main partner: a2a, Qcea, acquadotto pugliese, HERA, iren, MM, smat gruppo

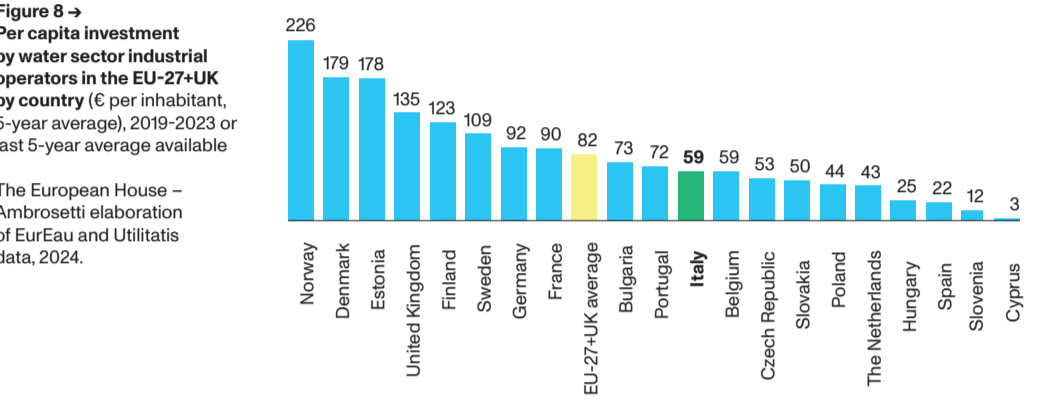
Partner: AB, CVA, Deutsche Bank, eng, EUROPROGETTI, italmimpianti, fisia, IWS, PIZZAROTTI, Life Is On, Schneider Electric, SUEZ, xylem

Junior partner: alfa, Acque Bresciane, ACQUA NOVATA-VO, BARCHIMICALS, BriantAcque, COMO ACQUA, Irritec, LTA, LIMENTA TRATTAMENTO ACQUE, MeteRfit, padania acque, PIAVE SERVIZI

Scientific partner: UTILITALIA, UTILITATIS, The European House Ambrosetti, COMUNITA' VALORE ACQUA PERITALIA

4 Investing today for water tomorrow: the role of investment for the competitiveness of the water value chain in Italy

- Over the past five years (2019-2023), Italian industrial operators are estimated to have invested an average of 59 Euros per capita.
- Approximately **80%** of water sector investment is **financed** by Italian water rates. With a rate of **2.1 €/m³** in 2022, Italy ranks 19th in the EU (nearly five times lower than Denmark's).
- There is a **positive correlation** between water rates and investment levels in the water sector: an **additional €1** in the water rate correlates to **€15 more** in investment per capita.
- **Public funding** and **private financing** are key elements that can work together to promote the sustainable transition of the water sector by contributing to increasing the level of investment.

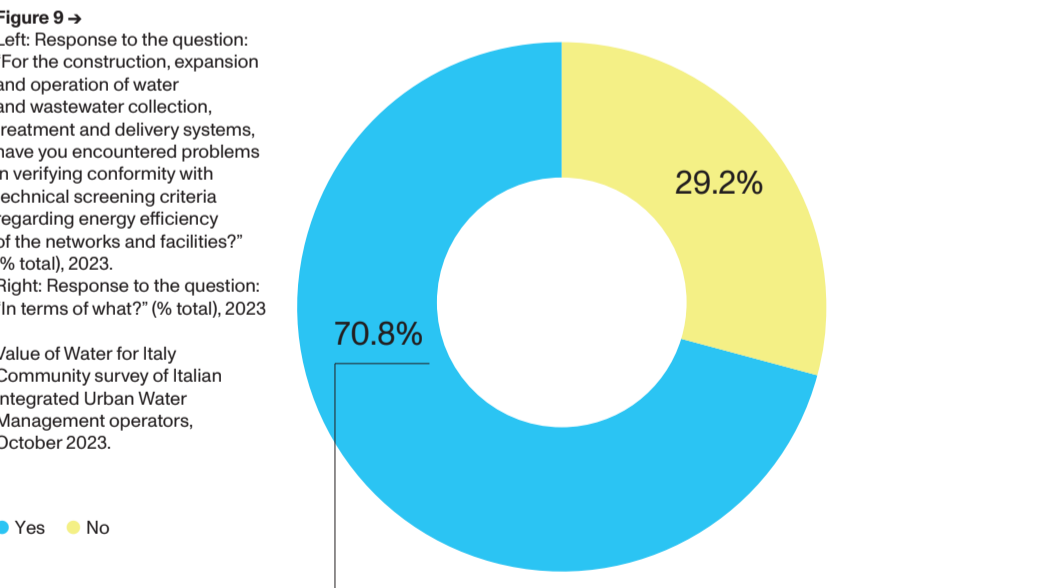


NRRP

- The NRRP has allocated **€7.8 billion** in funds directly connected with initiatives for more efficient and sustainable management of water resources in Italy
- The funds are **not sufficient** to bridge the current gaps. To achieve the European average of per capita investment in the Integrated Urban Water Management sector, a further **€1.4 billion** per year is required (more than double the €580 million per year provided for in the NRRP), and to combat climate change and for the resilience of irrigated agricultural ecosystems, nearly a **further €1 billion** would be required (compared with the €630 million planned).

SUSTAINABLE FINANCE

- **Sustainable finance** has the potential to adequately stimulate economic growth in some sectors
- To support growth that is truly in-line with the provisions contained in the United Nations SDGs, the **European Taxonomy** was created
- However, Italian water service operators noted **problem areas** in verifying conformity with the technical criteria defined by the **European Taxonomy**



5 What needs to be done to reinforce the development of the extended water value chain: Agenda for Italy

1 →	Develop a challenging vision for more sustainable nation and water value chain	1	Establish Italy as a sustainable Country , starting from the efficient, local and circular management of its water resources , that is involved in fully mitigating the risk tied to this resource and is capable of attracting investment and technological innovation throughout the extended value chain, with authoritative influence on a European level and which makes sustainable water management a competitive and development-oriented asset
2 →	Create the conditions to enable growth in investment and consolidation of the sector	2	<ul style="list-style-type: none"> → Promote industrial water management to guarantee effective investment in the local area involved → Fully promote and reinforce the efficacy of public debate by granting adequate power to the National Commission and better defining the time frames of public debate
3 →	Take advantage of public and private financing opportunities	3	<ul style="list-style-type: none"> → Ensure that NRRP time frames are respected by developing a strategy to efficiently and rapidly take advantage of the funds earmarked for the extended water supply chain → Examine the technical criteria of the European Taxonomy for investment regarding the Integrated Urban Water Management sector, starting from open, transparent discussion with operators → Support the creation of sustainable finance methods to relaunch investment, for example, "water corporate bonds" or "sustainability-linked loans" → Organize training courses for companies regarding Financial Sustainability Reporting → Introduce incentive measures with reward systems that promote sustainability and creation of green financing methods → Support the candidacy of the extended water supply chain as the first "benefit value chain" in Italy
4 →	Adjust water tariffs and give financial support to raise awareness about correct water use	4	<ul style="list-style-type: none"> → Increase the capacity for investment through rates to upgrade Integrated Urban Water Management for the treatment of new contaminants and to conform to EU regulations for water reuse → Acknowledge — both with a proper Integrated Urban Water Management rate level and targeted financing — the duty to provide communication and awareness-raising of correct water use → Enable a rise in water sector tariffs while easing the effect on the public with bonuses for less-wealthy segments of the population and creating a planned roadmap with the goal of attaining the average European volume by 2030 and coming into line with the top-10 Countries by 2050
5 →	Update infrastructure to increment storage and water circularity (Circular Water)	5	<ul style="list-style-type: none"> → Develop water resource management and flood lamination plans through adequate water basins in the face of intensification of weather phenomena → Allow for full operation of currently-existing reservoirs, through targeted investment → Provide investment initiatives that can be rapidly implemented for drinking and irrigation use → Accelerate implementation of treatment infrastructure projects in those areas without this service → Identify means for promoting water reuse for both industrial and agricultural applications → Diversify water resource supply sources, both through infrastructure investment and accelerating research into innovative technologies (e.g., desalination)
6 →	Digitalize the extended value chain (Smart&Digital Water)	6	<ul style="list-style-type: none"> → Promote adoption of smart water technologies in the extended value chain through tax breaks as a stimulus to investment → Promote, including through proper financing, digitalization of the agricultural sector through extension of the application of the Agriculture 4.0 model → Prepare and keep up-to-date a list of work financed by the NRRP, with identification of the expected time frame they will enter into operation and the goals for reducing water leakage
7 →	Increase efficiency of data collection and management throughout the extended water value chain	7	<ul style="list-style-type: none"> → Complete the preparation of district and sub-district water balances → Launch the creation of a unified data bank differentiated by the various uses of water so that the extended water supply chain can be seen as a single integrated ecosystem → Create an Observatory to define unified data monitoring, collection and diffusion measures for the water sector on a national level → Support ongoing and effective communication regarding phenomena of particular importance for Italy and its economy
8 →	Align incentives for responsible withdrawal and usage of all water applications and promotion of ecosystemic services	8	<ul style="list-style-type: none"> → Identify new criteria agreed upon for regions to update water abstraction fees for uses other than drinking water → Support the search for long-term updated and updatable data, both for irrigation water operators and IWS operators → Provide for the introduction of incentive or "Blue Certificates" systems to create incentive for water conservation and reduction of withdrawals by all water resource users
9 →	Provide communication, education and training regarding correct water resource management	9	<ul style="list-style-type: none"> → Extend the pilot project in Italian schools launched by the Value of Water for Italy Community to be a national initiative → Activate educational programs on the status of water management in Italy and the value of water in the context of climate change, directed to the public → Promote dialogue with local and national government and institutions for structured activity involving consciousness-raising, information and education about the importance of water → Launch a training and skill-building program to create new water professionals
10 →	Reinforce public/private collaboration and integrate coordination among the various stakeholders	10	<ul style="list-style-type: none"> → Accelerate implementation of initiatives identified as priorities as part of the "National Plan for Water Sector Infrastructure and Safety Work" → Promote concentration of current ministerial responsibilities into a unified Ministry of Water → Make the Water Crisis Steering Committee in Palazzo Chigi a permanent body as a Coordinating Roundtable