

# Third Edition RISK MANAGEMENT

Knowledge, Forecasting, Prevention, Protection, Planning, Preparedness 20 - 27 July 2025



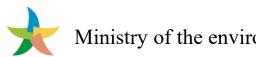
Is sustainable water use possible? (Water resources management at national scale)



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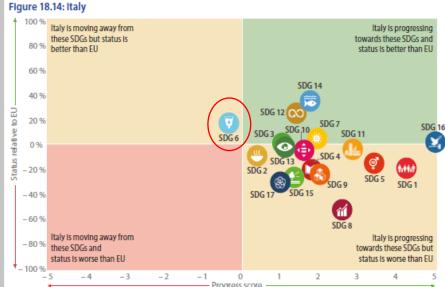
23 July 2025



# WATER POLICY AND PROGRESSES ON WATER (SDG)

Water policies are not in line with SDG 6 and its 2030 targets







# 10 years progress

Tabella 6.1 - Elenco delle misure statistiche diffuse dall'Istat, tassonomia rispetto agli indicatori SDGs, variazioni rispetto all'anno precedente e a 10 anni prima e convergenza tra regioni GENZA TRA REGIONI rispetto a 10 anni prima Percentuale di popolazione che fruisce di servizi idrici di acqua potabile gestiti in modo sicuro 6.3.1 Percentuale di acque reflue civili e industriali trattate in modo sicure Percentuale di acque marino costiere con stato di qualità ecologica elevato o buono e di qualità Percentuale di coroi idrici che hanno raggiunto l'obiettivo di qualità ecologica (elevata o buona Livello di stress idrico: prelievo di acqua dolce in proporzione alle risorse di acqua dolce disporcoperazione in materia di risorse idriche (Elaborazione su dati Ministero dell'Ambiente e della Identico Sicurezza Energetica, 2023, valori percentuali) Assistenza ufficiale allo sviluppo per l'acqua e i servizi igienico-sanitari come parte di un piano di spesa coordinato dal governo e) Variazione calcolata sul 2018

Source: ISTAT

PEGGIORAMENTO

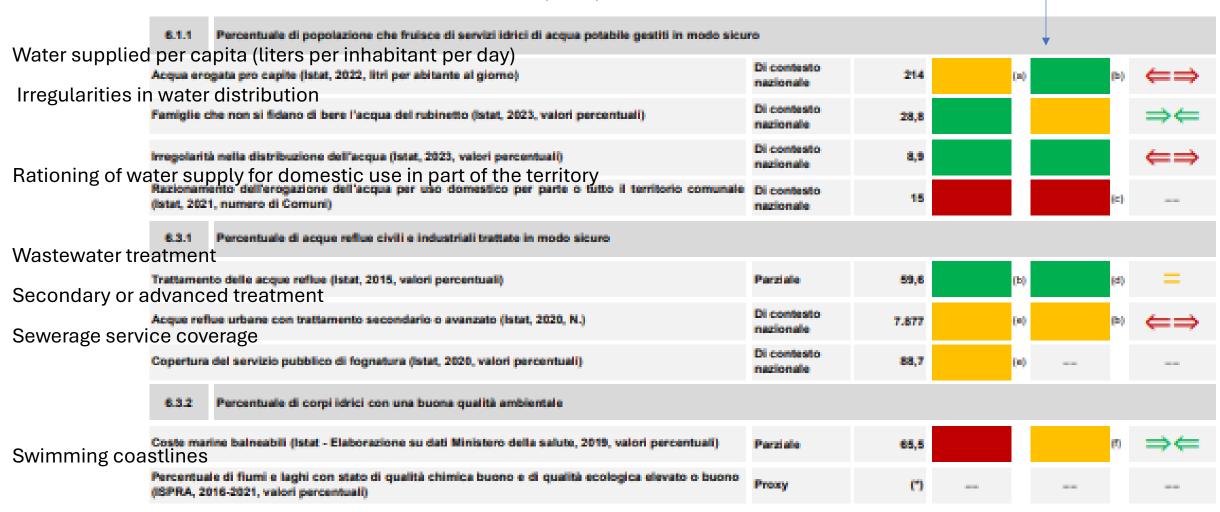
NON DISPONIBILE / NON SIGNIFICATIVO

□⇒ DIVERGENZA

(\*) Si rimenda alla tabella dati diffusi

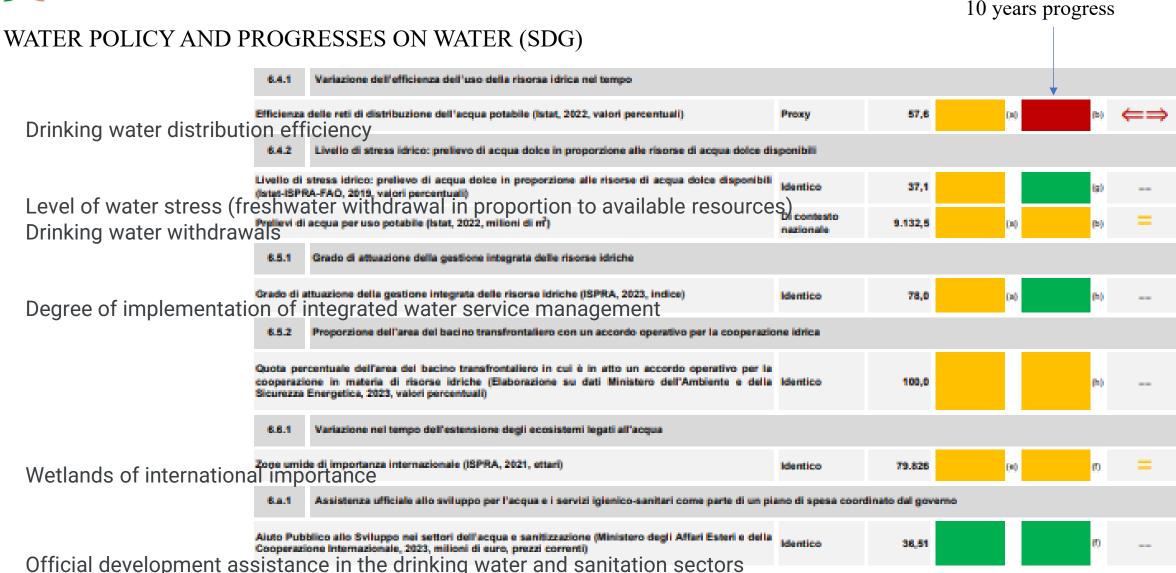
# 10 years progress

# WATER POLICY AND PROGRESSES ON WATER (SDG)



Percentage of rivers and lakes in good chemical and ecological condition

Source: ISTAT



Source: ISTAT



#### NATIONAL MEASURES ON WATER MANAGEMENT AND PLANNING AT RBDA

2023 PNACC National Climate Change Adaptation Plan (MASE, December 2023)

2022 SEC National Strategy on Circular Economy (MASE Decree 29.06.2022): information campaign on water saving, rules for water reuse, sanctions for illegal water withdrawals, rules for strengthening District Authorities

2021-2026 NEXT Generation EU Italy (PNRR): Financing of water infrastructures and new regulations in the water sector (alignment of water concession fees, prioritization of interventions, measurement of irrigation consumption, sediment dredging, sanctions)

2023 Drought Decree DL n.39: National Control Room and Extraordinary Commissioner - Census of works and interventions requiring urgent implementation, selection of works to be implemented by the Commissioner. Approval of the list of urgent measures and regulations, of immediate and short implementation, structural and management, to combat water scarcity

Financing, management and monitoring of the 3th RBMPs e 2th FRMPs 2022-2027 - next WFD-FD plans

Decree environment 2024 n. 153: package of measures aimed at protecting the environment, rationalizing environmental assessment and authorization procedures, and carrying out remediation of contaminated sites and geological hazard.

PNIISSI (art. 1 co. 516, L. 205/2017): Decree of the Ministry of Infrastructure (National plan for infrastructure and safety interventions in the water sector that provides a strategic water infrastructure master planning tool with a medium- to long-term vision built by adopting an analysis model based on four dimensions: economic-financial, environmental, social and institutional.

Several Decrees are ongoing in water sector (desalination, wastewater reuse, freshwater sediments management, PFAS, etc.)

#### RBDAs – ORGANIZATION and COMPETENCIES

7 River Basin Districts (RBDs) managed by the River District Basin Authorities (RBDAs).

**The RBDAs** have 6 different bodies identified by art. 63 of Legislative Decree 152/2006 and governed by the same law and by their own Statute:

- the Permanent Institutional Conference,
- the General secretary,
- the Operational Conference,
- the **Permanent District Observatories on water uses** (established by D.L. 39/2023),
- the technical operational secretariat,
- the board of auditors.

The RBDAs carry out planning activities at the river basin level and provide information on the health condition of rivers and water resources, and the objectives set for these areas. They identify timelines and measures for achieving the good water quality status and continuously update the knowledge framework about flood hazard and geomorphological instability.



National Geo-portal: Administrative boundaries of RBD

# RBDAs – ACTIVITIES AND FINANCIAL RESOURCES

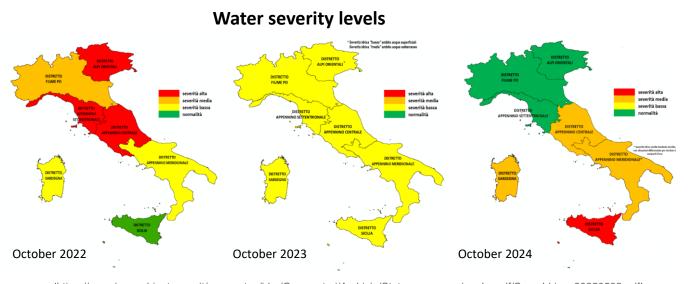
# Some planning activities:

- Mitigation of hydrogeological risk and coastal erosion financed by Operational Plan for the Environment of the Development and Cohesion Fund (FSC) and a specific funding of 14 million for non-structural measures provided by Flood Risk Management Plans.
- Three-year experimental program for the recovery of plastics in the rivers most affected by this pollution financed by the resources of the Law 60/2022 ("Legge SalvaMare"), related to measures for the collection of floating waste in rivers, with an allocation of 2 million euros for each of the years 2022, 2023 and 2024.
- 4935 active measures included in the approved Flood Risk Management Plans which need of 38.52 Billions euros.
- Win-win measures, particularly for hydraulic risk mitigation. If the interventions for hydrogeological risk mitigations are win-win measures, an additional score is foreseen in the selection procedure (divided in 5 phases) of the interventions to be carried out.
- National plan for infrastructure and safety interventions in the water sector (PNIISSI MIT) Implementation plan 2025: Dams and water interconnection, interventions for irrigation and drinking uses. 17 of the 66 fundend interventions included in the plan had been identified as priorities by the RBDAs. The funding of the 17 interventions is 254 millions €.

RBDs	n. financed interventions
Eastern Alps	3
Po river	3
Central Appennines	2
Southern Appennines	2
Sardinia	1
Sicily	6



#### DROUGHT AND WATER EMERGENCY



(https://www.isprambiente.gov.it/pre\_meteo/idro/Osservatori/Archivio/Stato\_sever\_nazionale\_pdf/SeverIdrica\_20250502.pdf)

National plan for infrastructure and safety interventions in the water sector (PNIISSI - MIT) - *Implementation plan* 2025: Dams and water interconnection interventions for irrigation and drinking uses

Intervention sectors	n. interventions	Amount financed €
Aqueduct	12	191.243.118,83
Dams	14	257.263.583,93
Adduction pipelines	23	261.864.854,74
Water diversion	17	244.393.803,17
Tot.	66	954.765.360,67

**D.L. 39/2023/Law 68/2023 - Drought decree**: specific measures against drought by increasing the resilience of water systems to climate change and reducing the dispersion of water resources.

#### The DL establishes governance rules:

- National ministerial control room for the water crisis;
- designation of the National Extraordinary Commissioner, for the adoption of urgent interventions related to the water scarcity;
- Permanent District Observatories on water uses as a body of the Basin Authorities.

#### The DL addresses also measures on:

- reuse of wastewater for irrigation purposes;
- desalination of seawater;
- construction, strengthening and adaptation of water infrastructures;
- to strengthen the sanctioning system for illegal water extraction and for failure to comply with the operation and maintenance of dams.



#### WATER EMERGENCY IN SICILY

**Council of Ministers resolution 6/05/2024** (Official Journal no. 113 of 16/05/2024) "Declaration of state of emergency in relation to the water deficit occurred in Sicily"

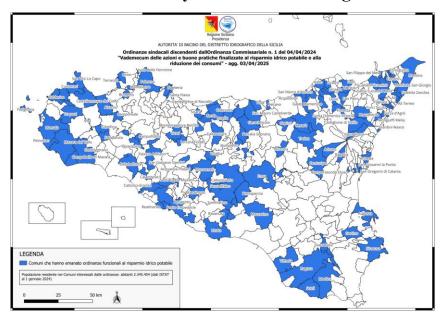
**Priority interventions identified**: desalination plants in Trapani, Porto Empedocle and Gela

- Financing of desalination plants (C.D. no. 15 of 27/02/2025)
- Authorization for the construction and commissioning of the desalination plants of Gela (C.D. n. 17 of 03/07/2025), Porto Empedocle (C.D. n. 20 of 20/03/2025) and Trapani (C.D. n. 21 of 03/04/2025).

National plan for infrastructure and safety interventions in the water sector (PNIISSI - MIT)

Implementation plan 2025: Dams and water interconnection interventions for irrigation and drinking uses

#### Ordinances of the mayors for water saving 2025



#### Other interventions

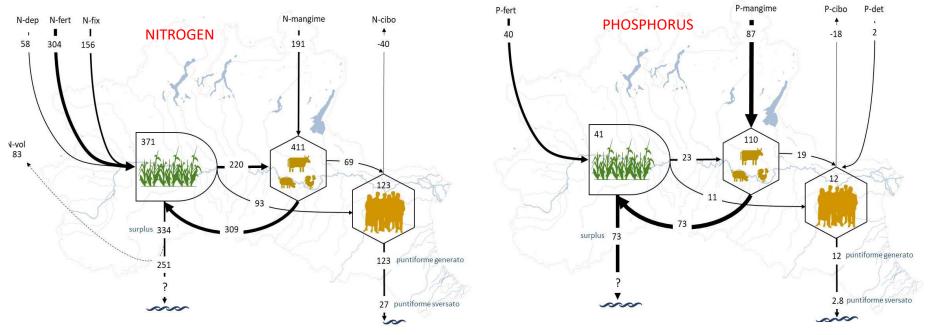
- Alternatives sources (wells) in compliance with the provisions of Legislative Decree 18/2023 (directive (UE) 2020/2184)
- Reduction of losses in water infrastructure
- Reduction and water supply shifts
- Tanker truck services for drinking water supply



# COMBINING WATER POLICIES WFD – Nitrates action plans

Surface water eutrophication phenomena, agriculture and other impacts, groundwater status and synergies with the WFD Adaptation measures related to the sustainable use of nutrients strengthened within a careful national and local planning in synergy between the implementation

of the WFD and the Nitrates Directive



FONTE: STUDIO SULL'ORIGINE E LA DINAMICA DEI CARICHI INQUINANTI origine e dinamica dei carichi inquinanti trasportati dal bacino del fiume Po e dagli altri corsi d'acqua che sfociano nel mare Adriatico.

Main transfers of nitrogen and phosphorus between the agricultural, livestock, and civil sectors that contribute to the formation of the potential load in the Po River basin. All flows are in kt year-1 and refer to 2018



The data shows that the generated loads are of diffuse origin, involving the initial part of the cycle (fertilizers and feed imports) and not the final part (treatment plants). The conveyed load derives not only from current activities but also from past ones and from the interaction with hydrological characteristics

REGION	NITRATES ACTION PROGRAMMES
PIEMONTE	REGIONAL REGULATION N. 12/2023
LOMBARDIA	REGIONAL COUNCIL RESOLUTION N° XII / 3635/2024
VENETO	REGIONAL COUNCIL RESOLUTIONN. 813/2021 REGIONAL COUNCIL RESOLUTION N. 837/2023
EMILIA ROMAGNA	REGIONAL REGULATION N. 2/2024
LIGURIA	REGIONAL COUNCIL RESOLUTION N. 159//2024.
MARCHE	REGIONAL COUNCIL RESOLUTION N. 740/2023
PA TRENTO	RESOLUTION OF THE PROVINCIAL COUNCIL 2017 /2022

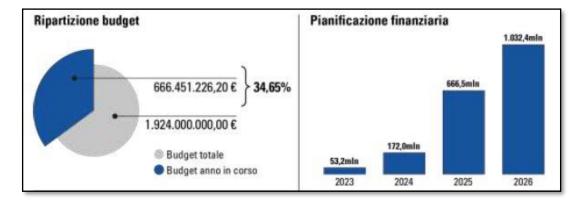


#### NEXT GENERATION EU – WATER INVESTMENTS MEASURE M2C4

M2C4 - Investment 4.1 Primary water infrastructures



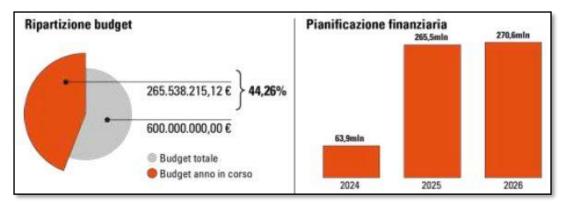
M2C4 - Investment 4.2 Water supply loss reduction interventions



(Source: Regis, March 2025

Camera dei Deputati – Servizio Studi)

M2C4 - Investment 4.4 Sewerage and wastewater treatment



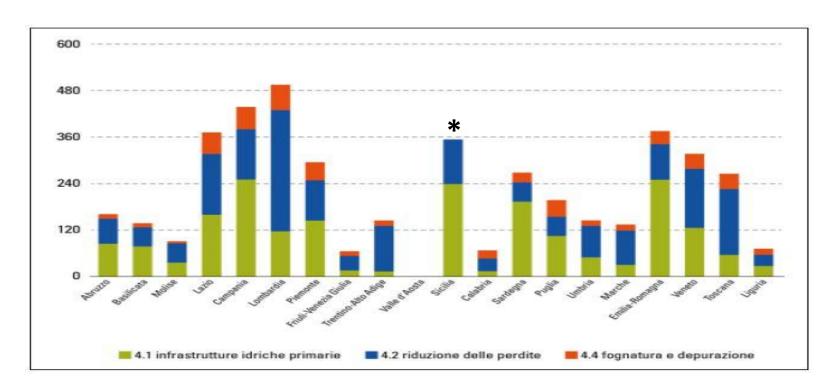
The amount rises to EUR 5.4 billion considering also the resources of the M2C4-I4.3 (MASAF) line, which allocates EUR 880 million to the resilience of the irrigation systems.

#### **Legislative REFORMS**

The Reform 4.2 "Measures to ensure full management capacity for integrated water services" aim at:

- Reduce the management fragmentation of the IIS (art. 22 D.L. 152/2001)
- Provide incentives for sustainable water use in agriculture (D.M. MASAF n. 485148 del 30.09.2022, G. U. n. 234, del 6.10.2022)
- Establish a regulated pricing system that adequately accounts for environmental resource use and pollution, in accordance with the "polluter pays" principle (Decree MEF 31.12.2022, G.U. n. 59 del 10-03-2023)

# PNRR M2C4 - Regional distribution of the resources resulting from investments 4.1, 4.2 and 4.4



<sup>\*</sup> Sicilia Region: the distribution of the resources for the investment 4.4 is not reported in the graphic. The signed agreement provides for investments of more than EUR 60 millions.

(Source: Regis, March 2025 Camera dei Deputati – Servizio Studi)

# **Next GEN EU € 4,5 billions,** whose:

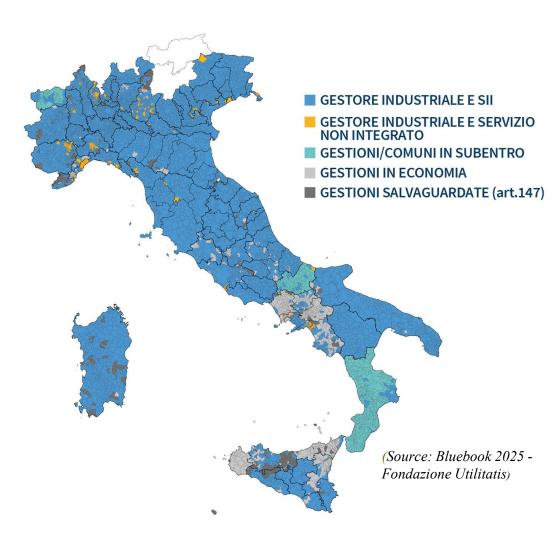
- Inv. 4.1: € 2 billions
- Inv. 4.2: € 1,924 billions
- Inv. 4.4: € 0,6 billions
- Total investments:
- More than 5 billions Euro
- Annual needs estimated for Water Services only, from different sources: 2 Billions

# EVOLUTION OF INTEGRATED WATER SERVICE MANAGEMENT (SII), MUNICIPALITIES AND REGIONS

Industrial operator and SII	49,3 millions inhabitants	
Industrial operator and non-integrated SII	1,5 millions inhabitants	
Management/Municipalities taking over	2,2 millions inhabitants	
Management in economy	6,7 millions inhabitants	

The procedures for the assignment of the SII have not yet been completed in the ATI of Messina and in the district areas of Napoli Nord and Sannita.

ATI Trapani: in December 2024, the Council of Ministers decided to assign the management of the SII on a transitional basis to INVITALIA S.p.A. in implementation of the substitutive powers referred to in Article 14, paragraph 4 of Legislative Decree no. 115 of 9 August 2022.



#### URBAN WASTE-WATER EU INFRINGMENTS PRECEDURES

Distribution of the agglomerations concerned by infringement procedures for incorrect implementation of Directive 91/271/EEC

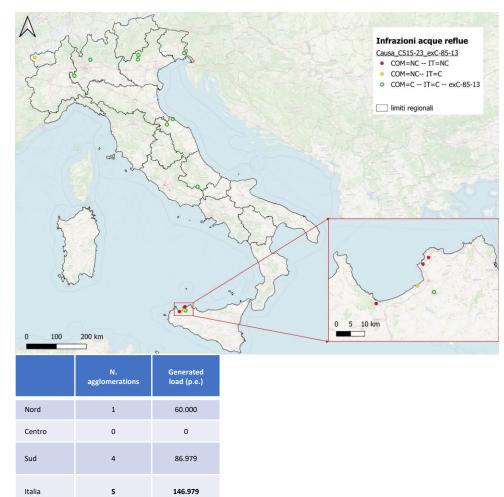
#### Causa C-251/17



Since 2017, an extraordinary Commissioner has been appointed (Decree-Law No. 243/2016), who is in charge of carrying out the interventions necessary to avoid the aggravation of the existing infringement procedures, in the agglomerations subject to condemnations by the EU.

	N. agglomerations	Generated load (p.e.)
Nord	2	69.400
Centro	0	0
Sud	65	5.559.523
Italia	67	5.628.923

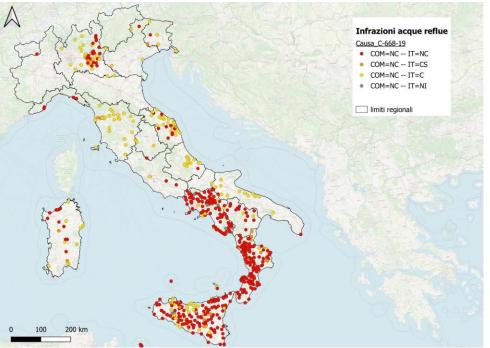
#### Causa C-515/23



# URBAN WASTE-WATER EU INFRINGMENTS PRECEDURES

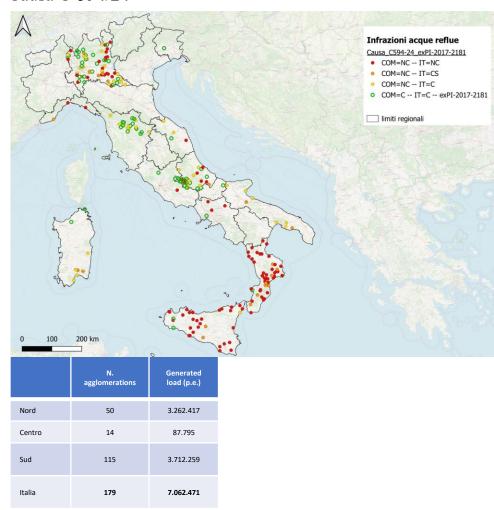
Distribution of the agglomerations concerned by infringement procedures for incorrect implementation of Directive 91/271/EEC

#### Causa C-668/19



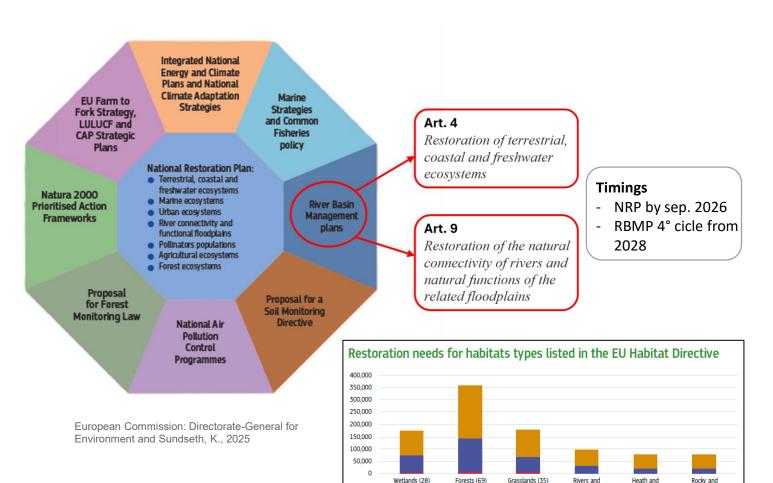
	N. agglomerations	Generated load (p.e.)
Nord	73	1.429.000
Centro	67	4.451.854
Sud	465	8.111.090
Italia	605	13.991.944

#### Causa C-594/24





# FUTURE NEEDS AND UPCOMING COMMITMENTS Nature Restoration Regulation



Directive 18/2023 on the quality of water intended for human consumption

- 1) Water safety approach based on risk assessment and management covering the entire supply chain. The assessment in the areas of withdrawal points for water intended for human consumption uses the information and data indicated by the WFD
- 2) Attention to the identification of possible dangers for the quality status of water intended for the production of drinking water also in order to direct monitoring and subsequent preventive measures

Water Framework Directive 2000/60/CE

European Commission: Directorate-General for Environment, 2022

exceeding the terrestrial area of the country. NB the figures are averages. They include habitats that have a poor or bad conservation status or an unknown status

Source: EEA: Restoration needs of habitats listed in Annex I of the Habitats Directive based on reporting by Member States (2013–2018). Romania is excluded because it reported Annex I area

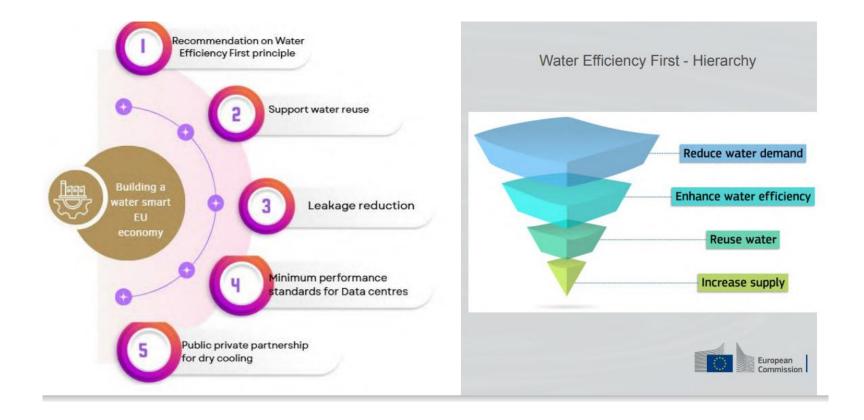
Area to be re-established



# FUTURE NEEDS AND UPCOMING COMMITMENTS **EU Water resilience strategy**

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Water Resilience Strategy COM/2025/280 final

EUR-Lex - 52025DC0280 - EN - EUR-Lex



#### AREAS OF ACTION

#### Implementation and Governance





The Council's recent draft (July 2025) was satisfactory, incorporating the assessments and positions expressed by Italy at the WPE. Specifically, we appreciate the inclusion of the following important points in the Conclusions:

#### I. IMPLEMENTATION

- Integrating water resilience more systematically across all sectors, while promoting source-to-sea approaches and nature-based solutions.
- Choosing solutions and measures that take into account the diverse geographical, hydrological, climatic, economic, and social conditions of Member States and regions.

#### II. PREPAREDNESS AND SECURITY

• Water resilience is crucial for crisis preparedness, social stability, and environmental security, particularly in the face of intensifying droughts, floods, pollution, and infrastructure vulnerability.

#### III. COMPETITIVENESS, DIGITALISATION, AND INNOVATION

- Promoting a competitive economy based on the intelligent use of water by reducing demand, improving efficiency, promoting water reuse, and reducing excessive abstraction in all sectors.
- The Water Efficiency First principle, respecting national differences, which must be taken into account when developing common methodologies.
- Digital tools as a means to improve water resource management and increase water efficiency across all sectors and industries.
- Digitalization and technological innovations, also aimed at ensuring: the security of critical infrastructure, supporting system competitiveness; and strengthening pollutant monitoring systems.

#### IV. FINANCING AND INVESTMENTS

- Strengthening investments to implement water resilience with public and private resources and the full use of EU funds.
- The possibility of a European Investment Bank water programme and the creation of a sustainable water consultative instrument to strengthen water infrastructure (such as distribution networks, wastewater treatment and stormwater management) and support Member States and regions



#### FUTURE NEEDS AND UPCOMING COMMITMENTS



Water Reuse to address water crises and to increase resilience.



Recovery of the reservoir capacity for a more effective management of the reservoirs



**Desalination of sea and brackish waters** that can represent a complementary and emergency contribution to conventional sources.



**Strengthening of water infrastructures** also through the identification of priority interventions, creating connection networks and differentiate supply sources



Artificial recharge of groundwater through the updating of national legislation in the sector

The priorities we are working on at a national level:
the strengthening of water infrastructures and interconnection of systems, to guarantee supplies even in conditions of water crisis, integrating sources and identifying the most resilient ones, such as aquifers and ecosystems, the reduction of losses in water distribution networks, the rationalization of uses in agriculture and production activities, the digitalization and monitoring of networks to promote adequate management of water resources, reduce

waste and limit inefficiencies;



- the mapping of withdrawals and the refinement of the Water Balance, the management of authorizations and the review and alignment of concession fees, the creation of "green factories" to allow the reuse of refined wastewater for all purposes and the valorization and recovery of sludge (nutrients, organic matter, critical raw materials);



- the creation of an advanced and integrated monitoring and forecasting system that allows the identification and prediction of risks in the territory.



#### CONCLUSIONS

We trust in a greater synergy of the next RB Management Plans with all the related national environmental strategies, in national and community resources that will support the action programs, hoping that the actions implemented so far can produce the desired effects, to overcome the critical issues and implement that necessary adaptation strategy to the increasingly strong climate impacts expected in the Mediterranean area.

Thank you