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of 4 June 2025

on guiding principles of water efficiency first

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

(1) Due to unsustainable water management practices, pollution and growing demand, water quality and quantity as well as the health of aquatic ecosystems in the Union are not improving at the pace they should. Climate change and biodiversity loss are exacerbating this trend. Water constraints increasingly affect society and the economy. In this context, increased water efficiency becomes a bare necessity.

(2) The Commission report to the Council and the European Parliament ([1]) which presents the progress on the implementation of Directive 2000/60/EC of the European Parliament and of the Council ([2]) and Directive 2007/60/EC of the European Parliament and of the Council ([3]) confirms that most Member States perceive water scarcity as a growing concern. Water scarcity occurs in about 34 % of the Union's territory and affects about 40 % of the Union's population during at least one season in a year ([4]). Water scarcity is caused by a combination of overexploitation and climate impacts ([5]). The European Parliament called for action on these matters ([6]).

(3) Droughts affect on average 4 % of the Union's territory every year. In southern and south-western Europe, river discharge during summer could decline by up to 40 %, under a 3 °C temperature rise scenario. Over the last decades, they have increased in number and intensity in Europe. The severe drought and heat events in 2022, for instance, caused an estimated EUR 40 billion of economic losses with the largest losses recorded in Italy, Spain and France ([7]).

(4) Ongoing climate change is expected to make the problem worse, as the impacts and frequency of droughts increase. The combined impact of structural overconsumption and increased risk of prolonged droughts pose risks to water security, drinking water supply, agriculture, inland navigation, tourism and power supply ([8]). Water scarcity across sectors and loss in agricultural production due to combined heat and drought belong to the top key risks from climate change in Europe ([9]).

([1]) Report from the Commission to the Council and the European Parliament on the implementation of the Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC) (Third river basin management plans Second flood risk management plans), COM(2025) 2 final.
([2]) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1, ELI: http://data.europa.eu/eli/dir/2000/60/oj).
([3]) Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks (OJ L 288, 6.11.2007, p. 27, ELI: http://data.europa.eu/eli/dir/2007/60/oj).
([4]) See EEA Water Scarcity Conditions in Europe, available here. It is assumed that a WEI+ indicator for water resources above 20 % suggests a situation of water scarcity.
([5]) EEA, Water Resources Across Europe, 2021, available here.
([6]) European Parliament resolution of 7 May 2025 on the European Water Resilience Strategy (2024/2104(INI)).
([7]) European Climate Risk Assessment, EEA Report 01/2024, page 209 with further references.
([8]) The European Climate Risk Assessment (2024), chapter 5 and chapter 11, which also contains more information on the expected rise of prolonged droughts (including megadroughts) in Europe.
([9]) Intergovernmental Panel on Climate Change, Sixth Assessment report. https://www.ipcc.ch/assessment-report/ar6/

(5) Freshwater abstraction per year has decreased, with geographical differences, by 19 % between 2000 and 2022 ([10]), however abstractions of freshwater per capita are expected to increase again. This is because: (i) the progress on water efficiency in the most consumption intensive sectors such as energy and agriculture, including bioenergy is insufficient; (ii) industrial and digital transformation require more freshwater; and (iii) mismanagement, pollution and climate change are exerting increasing pressures on the availability of clean freshwater for socio-economic purposes. This harms the ecological flows essential to safeguard the water ecosystem, and the competitiveness of the Union's economy which needs clean freshwater as much as it needs clean energy.

(6) The European Central Bank estimates that up to 60 % of outstanding credit risks in the euro area could suffer some exposure to water scarcity and heat stress, and 20 % to floods ([11]). Moreover, as water-related climate risks intensify, the insurance gap could increase ([12]), making economic recovery after water related incidents like droughts or floods more difficult.

(7) Investing in water efficiency will contribute to providing sufficient water to key economic sectors that are critical for the Union's strategic autonomy and has hence potential to enhance competitiveness, as recognised in the Clean Industrial Deal ([13]). Harnessing water saving potential will also create business opportunities and cost savings for consumers. The Union's industry is already a global front runner in developing water technologies.

(8) The 2025 Competitiveness Compass ([14]) calls upon Member States to address growing water scarcity by improving water management practices and infrastructures, increasing water efficiency and promoting sustainable water use. The Joint Communication on the European Preparedness Union strategy ([15]) stresses the need to strengthen access to critical resources across the Union, such as water, for example for emergency and disaster response.

(9) The interdependence between water and energy resources is a critical factor in ensuring the security and resilience of the Union's water and energy systems.

(10) The Union is obliged to act on water efficiency based on European and international rules such as the United Nations Convention on the Protection and Use of Transboundary Watercourses and International Lakes signed on 17 March 1992 in Helsinki, Article 7 of the Paris Agreement signed on 12 December 2015 in Paris, Article 5 of Regulation (EU) 2021/1119 of the European Parliament and of the Council ([16]) as well as the European Union's commitments under the UN Water Action Agenda ([17]). Target 6.4 of the UN Sustainable Development Goals also obliges Parties to substantially increase water-use efficiency across all sectors already by 2030.

([10]) EEA (2024), Water abstraction by source and economic sector in Europe, available at https://www.eea.europa.eu/en/analysis/indicators/water-abstraction-by-source-and.

([11]) European Central Bank, Climate-related risks to financial stability, Chart B.2?

([12]) European Central Bank, The Climate Insurance Protection Gap, based on EIOPA data, available here.

([13]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation', COM(2025)85 final.

([14]) Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'A Competitiveness Compass for the EU', COM(2025) 30 final.

([15]) Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'on the European Preparedness Union Strategy', JOIN(2025) 130 final.

([16]) Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1, ELI: http://data.europa.eu/eli/reg/2021/1119/oj).

([17]) https://data.consilium.europa.eu/doc/document/ST-7443-2023-INIT/en/pdf.

(11) The European Green Deal ([18]) launched a concerted strategy for an increasingly climate-neutral, toxic-free, resource-efficient and competitive economy, where economic growth is decoupled from resource consumption, as a response to climate and environmental-related challenges.

(12) The Union strategy on adaptation to climate change ([19]), the European climate risk assessment and the Communication on managing climate risks give an overview of the vast range of impacts from climate risks and the necessity to take action as policy and measures taken do not keep up with the pace of climate change. Dealing with water scarcity and droughts is one of the fields where action is needed. It is underlined that ensuring freshwater availability in a sustainable manner is fundamental for climate resilience.

(13) Water shortages have a very strong impact on the health of marine ecosystems and the viability of the social and economic activities of coastal and island communities that depend on them. Managing fresh and marine waters in an integrated, efficient manner is thus a necessity.

(14) The circular economy action plan ([20]) provides an agenda to advance towards keeping resource consumption within planetary boundaries, including water. In line with this objective, promoting the safe reuse of water in different sectors can unlock economic potential in water-stressed regions. It can also reduce the need for expensive infrastructure projects like new reservoirs or desalination plants, leading to long-term savings and improved business resilience to water shortages, as well as to reduced operational risks.

(15) Regulation (EU) 2024/1781 of the European Parliament and of the Council ([21]) enables the setting up ecodesign requirements that products have to comply with to improve a series of aspects, including water use and water efficiency, for almost all categories of physical products. The elements of this Recommendation will contribute to its implementation.

(16) This Recommendation provides guidance on elements which are not addressed in a comprehensive way in the Union water legislation: Directives 2000/60/EC, (EU) 2020/2184 ([22]), (EU) 2024/3019 ([23]), (EU) 2024/1785 ([24]) of the European Parliament and of the Council and Regulation (EU) 2020/741 of the European Parliament and of the Council ([25]).

(17) To promote water efficiency, it is appropriate to define a set of principles and recommendations that should form the basis for future Union and Member State actions to secure a more systematic consideration of the water saving potential in decision-making, and a more responsible use of water in all sectors.

([18]) Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'The European Green Deal', COM(2019) 640 final.

([19]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Forging a climate-resilient Europe – the new EU Strategy on Adaptation to Climate Change', COM(2021) 82 final.

([20]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'A new Circular Economy Action Plan For a cleaner and more competitive Europe', COM(2020) 98 final.

([21]) Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (OJ L, 2024/1781, 28.6.2024, ELI: http://data.europa.eu/eli/reg/2024/1781/oj).

([22]) Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (OJ L 435, 23.12.2020, p. 1, ELI: http://data.europa.eu/eli/dir/2020/2184/oj).

([23]) Directive (EU) 2024/3019 of the European Parliament and of the Council of 27 November 2024 concerning urban wastewater treatment (OJ L, 2024/3019, 12.12.2024, ELI: http://data.europa.eu/eli/dir/2024/3019/oj).

([24]) Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste (OJ L, 2024/1785, 15.7.2024, ELI: http://data.europa.eu/eli/dir/2024/1785/oj).

([25]) Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, p. 32, ELI: http://data.europa.eu/eli/reg/2020/741/oj).

(18) The principle of water efficiency first aims to ensure long-term sustainability of water consumption, bearing in mind that natural freshwater resources are finite and will be further reduced due to increasing global warming. Measures to increase water efficiency should build on a cost-benefit analysis including economic, environmental and societal externalities, while also considering subsidiarity, proportionality, fairness and equity.

(19) To accelerate the application of the principle of water efficiency first and to promote a large-scale deployment of water efficient measures, it is necessary to establish guiding objectives. For that reason, Member States should be encouraged to set their own targets for water efficiency, based on their national circumstances.

(20) The implementation of the water efficiency principle should make best use of new technologies such as digital smart meters and sensors for detecting and managing leaks, including from drinking water infrastructure, as required under Article 4(3) of Directive (EU) 2020/2184.

(21) Where measures to increase water efficiency need to be sequenced to resource constraints, priority should be given to those sectors consuming the most water or sectors with the highest water saving potential and following an assessment of the trade-offs, especially in relation to strategic sectors, while also respecting the water hierarchy. Those sectors will necessarily differ from one river basin to another and from one aquifer to the other.

(22) Water efficiency measures should be embedded in the programmes of measures of river basin management plans. These measures can lead to water saving and the desired progress towards water resilience only if they are part of a comprehensive approach. Accompanying governance measures and the use of economic instruments can turn water efficiency gains into lasting improvements of the water balance by avoiding rebound effects. Water efficiency strategies should always be consistent with national climate adaptation strategies.

RECOMMENDS AS FOLLOWS:

Principle of water efficiency first

(1) Member States are encouraged to apply the principle of water efficiency first, taking into account economic, social and environmental considerations, when adopting national measures affecting water management.

(2) 'Water efficiency first' means taking all necessary measures to reduce water demand as a priority above the exploitation of additional water resources. In declining order of priority, consumption should be reduced first, followed by measures to increase efficiency, followed by the reuse of wastewater and the expansion of water supply.

(3) In view of the potential for water savings, the EU should aim to enhance water efficiency by at least 10 % until 2030. Member States are encouraged to set their own targets for water efficiency, based on their national circumstances. The Commission will work with Member States and stakeholders to develop a joint methodology for water efficiency targets, taking into account territorial and other differences between countries, regions and sectors.

Efficient water resources management

(4) It is recommended that Member States apply water management practices set out in the Annex which, in particular, build on the water balance of a river basin and on reliable projections of environmental and socio-economic water needs. These practices should also build on the assessment of climate change impacts and vulnerability assessments based on the relevant climate change scenarios, and their impacts on civil security. These practices should build upon effective and regular controls of water abstractions, adaptable permitting procedures, strong support for research and innovation, and fully use of advanced digital tools.

(5) It is recommended that Member States promote efficiency at all levels of the water supply chain, namely storage, conveyance and water use, as set out in the Annex, and secure the necessary investments.

(6) It is recommended that Member States apply the principle of water efficiency first, where possible, across all water using sectors, including agriculture, energy, industry, commerce, the public water supply sector, and the digital economy, at all levels of planning and permitting for water management.

Governance

(7) It is recommended that Member States ensure appropriate governance for water management by ensuring in particular transparent, secure, inclusive, fair and predictable mechanisms for water allocation, providing certainty on allocation priorities between categories of uses in case of scarcity, while safeguarding vulnerable and marginalised groups' access to affordable drinking water and water for sanitation.

Training and awareness raising

(8) It is recommended that Member States invest in skills and human resources to ensure effective and efficient water management at all levels.

(9) It is recommended that Member States take actions to raise citizens', local authorities and businesses' awareness of the principle of water efficiency first. Such actions should be repeated at regular intervals.

Transboundary cooperation and international dimension

(10) Member States should ensure full transboundary cooperation on quantitative aspects of water management for all river basins, including through the mechanisms set out in Directive 2000/60/EC and relevant international cooperation mechanisms and bodies.

(11) It is recommended that Member States promote the principle of water efficiency first also at international level such as UN-Water, UNEP, G7 and G20, the OECD, the UNFCCC, the UNCCD, the CBD, FAO and strengthen their engagement with financial institutions such as the European Investment Bank, the European Bank for Reconstruction and Development and the World Bank, as well as the private sector to crowd-in long term investments into water efficiency initiatives.

Done at Brussels, 4 June 2025.

For the Commission
Jessika ROSWALL
Member of the Commission

ANNEX

Key water efficient practices to implement the Water Efficiency First guiding principles

(1) **Better control of the resource**

Maintain accurate and up-to-date water balances based on available guidance ([1]) and consider such water balances in planning decisions affecting water consumption and water saving measures. To this end, the following action should be considered:

(1) Establish and continuously monitor water abstractions, losses and returns in all water bodies of each river basin, and promote digital water metering for water abstractions and discharges. Water suppliers should make documents and data on the changes in the water balance and water quality publicly available frequently.

(2) In the public water supply sector, it should be ensured that water consumption is metered individually for each building and, in the case of condominiums, for each individual apartment. The use of smart meters should be encouraged where real time data reporting is needed for additional efficiency gains making the investment worthwhile.

(3) Establish ecological flows ([2]) of surface waterbodies, taking into account also the needs of groundwater bodies, in all river basins to know the maximum volume of sustainable abstractions, which is a precondition for rational and efficient water use. The maximum volume of sustainable abstractions should also take into account the needs of non-consumptive users and the requirements in relevant legislation. Engage in transboundary coordination to establish ecological flows for rivers that cross borders to avoid conflicts that could undermine an efficient approach to water consumption. Ensure the effective implementation of ecological flows by systematically considering them in conditions for water permits.

(4) Adequately assess, based on available guidance ([3]), saline and other intrusions and the water needs of dependent terrestrial and associated aquatic ecosystems connected to groundwater bodies. Make a responsible application, through a comprehensive risk-assessment, of Managed Aquifer Recharge techniques ([4]).

(5) Ensure that permits for water abstractions for surface and groundwater consider climate change predictions which account for uncertainty to anticipate future changes in the water balance and regularly align water permits to avoid over-abstractions ([5]). Make sure that the system of abstractions permitting is sufficiently agile, taking also into account significant seasonal variations where appropriate. Avoid unduly long permit times to allow for flexible adaptation in light of changes to the water balance. Apply appropriate water pricing to ensure the efficient use of water. Adopt sufficiently dissuasive sanctions for illegal, unregistered or non-permitted water abstractions and discharges.

(6) Ensure that the river basin management plans include ‘water balances’ and quantify water consumption per socio-economic activity to facilitate the planning of efficiency measures based on estimates for the remaining water saving potential. Integrate drought risk management aspects in River Basin Management Plans and prepare for the risk of a prolonged drought.

(7) Ensure that increased water efficiency leads to resilience through lower water consumption. For that purpose:

— apply the cost recovery principle for water services so that all water-users and water use sectors provide an adequate contribution to the water services costs;

([1]) See Common Implementation Strategy (CIS) under the Water Framework Directive Guidance No. 34 on Water Balances, available here.
([2]) See CIS Guidance No. 31 on Ecologic Flows, available here.
([3]) See CIS Guidance No. 18 on Groundwater Status and Trend Assessment, available here.
([4]) See CIS Guidance No. 39 on Managed Aquifer Recharge, available here.
([5]) See CIS Guidance No. 24 on River Basin Management and Climate Change, available here.

— ensure that water-pricing policies provide adequate incentives for using water resources more efficiently based on the economic analysis required under Annex III to Directive 2000/60/EC ([6]);

— make better and wider use of the 'polluter-pays' and the 'precautionary' principles, eliminating harmful environmental subsidies and ensuring affordable, just and fair pricing mechanisms for all water users.

Member States may, in so doing, have regard to the social, environmental and economic effects of the cost recovery as well as the geographic and climatic conditions of the region or regions affected.

Ensure full transparency of water pricing policies notably on the level of the tariffs, the use of the funds, the measures taken to preserve the water resource. As a matter of good practice this should be applied also in other sectors beyond drinking water and urban wastewater treatment.

(2) **Conveyance efficiency**

Enhance water leakage management as an essential part of operational management of water supply systems and prioritise investments to swiftly address leakages focusing on the supply areas most in need and using all Union funding opportunities and tools available.

(3) **Storage efficiency**

(a) Prioritise natural water retention measures ([7]), in soil, forests, groundwater and wetlands, which reduce evaporation compared to water storage above the ground in artificial reservoirs.

(b) Regularly maintain artificial reservoirs including by ringfencing funding for the periodic removal of sediments and the prevention of leaks.

(c) Optimise urban water management through 'rainwater harvesting', and other forms of natural water retention and accelerate the roll out of measures to prevent storm water overflows ([8]).

(4) **Use efficiency**

(a) Promote the adoption of best available technologies, practices and services to ensure an efficient use of water across all sectors, including by promoting circularity.

(b) Promote the reuse of wastewater beyond irrigation including also in industry, energy and the public water supply sector while preventing risks to human health and bearing in mind the environmental impacts of reduced return flows in a river basin.

(5) **Good governance**

(a) Develop water allocation schemes that are transparent and have an inclusive governance mechanism to ensure predictability for the water users concerned, including the non-consumptive users, while promoting sustainability, fairness, and the respect of human rights. When designing water allocation mechanisms, the water saving potential of sectors and regions should be taken into account.

(b) Develop or maintain specific social policies that benefit water users with low-income revenues and/or vulnerable / marginalised people to ensure access to water and sanitation for all, as required by the Directive (EU) 2020/2184 and the Directive (EU) 2024/3019.

([6]) CIS Guidance No. 1 on Economics and the Environment, available here.

([7]) See, for instance, 'A guide to support the selection, design and implementation of natural water retention measures in Europe, Capturing the multiple benefits of nature-based solutions', available here; and CIS Technical Report 82 'Natural Water Retention Measures', available here; and Joint Research Centre 'Nature-based solutions for agricultural water management', available here.

([8]) In line with Article 5 of Directive (EU) 2024/3019.

(6) **Training and awareness raising**

(a) Increase skills and train water management authorities, and authorities responsible for water using sectors, to help them apply the principle of water efficiency first to encourage lower water consumption.

(b) Support research and innovation, improve skills and enhance knowledge about all aspects of efficient water management in water using sectors. Raise consumers' awareness of the importance of saving water, while empowering them to act more sustainably in light of local conditions. This also includes providing transparency for consumers and citizens on water consumption and water management in line with Article 17 of Directive (EU) 2020/2184 and Article 24 of Directive (EU) 2024/3019.

(c) Promote better consumer information and raise awareness on the water footprint of consumer products and services using tools, such as the EU Ecolabel, the Digital Product Passport under Regulation (EU) 2024/1781.

(7) **International dimension**

(a) Consider, whenever relevant, the principles and objectives of this Recommendation when designing technical and financial support to partner countries.

(b) Strengthen engagement with financial institutions such as the European Investment Bank, the European Bank for Reconstruction and Development and the World Bank, as well as the private sector to crowd-in long term investments into water efficiency initiatives in line with the objectives of the EU Global Gateway strategy ([9]).

(c) Share best practices by implementing the principles and objectives of this Recommendation and advocate for water resilience and water efficiency in international cooperation.

([9]) Joint Communication to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank 'The Global Gateway', JOIN(2021) 30 final.