

POSITION PAPER

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The European technology industries' priorities for the sustainable use and management of water in Europe

Water was classified as one of the main catalysts for changes in Europe by 2025, according to a recent EU report¹. Acting upon the priorities, which Orgalim supports and strongly recommends to the EU's next legislative term, would surely propel these changes in a positive direction, shaping a future that is good for citizens, the environment and economy.

Numerous environmental challenges will continue to determine the flow and availability of freshwater resources worldwide, bringing consequential effects for its users and sectors. Due to population growth, the demand for this vital resource will be doubled worldwide by 2050 while its supply is expected to decline by 40%. At the same time, 80% of waste water is today discarded without sufficient cleaning and proper treatment. Climate change can only exacerbate this trend, as it contributes to the perennial water stress already felt across a third of the EU territory.

The sustainable use and management of water not only helps to address these increasing water shortage and quality constraints, but also offers economic opportunities for global EU technology leadership. A wide variety of different technology solutions made in Europe exist to counteract these alarming trends. Orgalim, representing Europe's technology industries, sees big potential in providing water technology solutions which enable sustainable growth and health at home and worldwide, while tackling growing pressures on water resources. This approach is embedded in [Orgalim's 2030 industry vision for a renewed Europe](#), centred on three strategic imperatives:

- transforming societal challenges into future drivers of prosperity,
- embracing the innovation-led transformation of European industry and
- enabling European industry's long-term global leadership.

European technology manufacturers offer cutting-edge machinery and electro-technical equipment for supplying clean water and treating waste water in a smart and sustainable manner (see Annex). A wide range of European technologies which apply to drinking water, water for agricultural and industrial use and municipal and industrial waste water, pave the way for a necessary shift to a sustainable, circular, energy-efficient water- smart society and to smart and greener cities.

¹ Source: An EU inter-institutional report "[Global trends to 2030-Challenges and choices for Europe](#)", April 2019

Orgalim represents Europe's technology industries: companies that innovate at the crossroads of digital and physical technology. Our industries develop and manufacture the products, systems and services that enable a prosperous and sustainable future. Ranging from large globally active corporations to regionally anchored small and medium-sized enterprises, the companies we represent directly employ 11 million people across Europe and generate an annual turnover of around €2,000 billion. Orgalim is registered under the European Union Transparency Register – ID number: 20210641335-88.

Europe's innovative technology industries are ready to lead this transition with other stakeholders being on board and the right policy and institutional solutions in place. To that end, we believe the following priorities will be key:

1. Sustainable use of water in support of climate ambitions

Sustainable use of water at all levels of our economy holds a key solution to the main current and future challenges, such as combating water scarcity and climate change. That is why any future legislative measure such as a possible review of the Water Framework Directive (WFD), its associated directives, and the Floods and Urban Waste Water Directives (UWWTD), should help to address these challenges in line with the EU's commitment to the UN Sustainable Agenda, the Paris Climate Agreement, a Clean Planet for All, a Circular Economy, and European water technology leadership.

We call upon EU policy makers to uphold ambitious and forward-looking water legislation that recognises both European technologies' active contribution to EU water goals such as energy-efficient and sustainable water and waste water management, and its need to keep a global competitive edge in creating clean technologies and systems.

Our technology solutions help other users and sectors to reduce their water footprint, improve energy performance and recover rainwater and valuable resources from used water. In this context, we urge EU policymakers to create a supportive and coherent water framework, interpreted in the same way across all EU member states. We acknowledge the importance of "the polluter pays" principle and better treatment of industrial waters and sewage before being discharged into surface waters.

The current Water Framework Directive has proven beneficial in taking a systemic view of the surface waters with a strong methodological approach towards the ecological issues of European waters. The directive has had a positive impact on water management. However, conditions for fulfilling the goals vary greatly between different European water bodies and there is a need to strike a good balance between environmental protection and the socio-economic development financing the measures for achieving the ecology status.

Additionally, it would be appropriate to develop policies and regulation for water management which target both environmental effects and the innovation and testing of new technologies for improvements in European water bodies and monitoring the status of waters in Europe. It is important that different EU instruments related to the environment and industry work together, in particular with regard to any revision of, for example, the Water Framework Directive, the Urban Waste Water Treatment Directive and the Industrial Emissions Directive.

Finally, for Europe to become climate-neutral by 2050, we encourage EU legislators to incorporate the water-energy connection into the Water Framework Directive and Urban Waste Water Treatment Directive and therefore move towards a technology-enabled, climate-friendly water cycle management.

2. Zero-water leakage

In line with the WFD's goal of sustainable water use based on the long-term protection of available water resources, we believe that EU regulators and member states should favour progressive reduction and elimination of water leakages, as up to 50% of water is being wasted due to losses in the water infrastructure.

Only clear legislative measures can give a real incentive to tackle this challenge, with our technology being available to help saving 13 billion cubic metres², the amount annually being lost in Europe through a 3.5 million kilometre water distribution network.

Public authorities have a vital role to play and should lead in upgrading water and waste water infrastructure in (increasingly smart) cities. Together with technological solutions, this can make Europe less vulnerable to water scarcity, floods and storm overflows, while making our cities more liveable, comfortable and greener. To make this happen, EU financial instruments under the new programming period 2021-2027 should allocate sufficient financing for water infrastructure projects to prevent water leakage.

3. The appropriate water value

To incentivise the market to use water sustainably, future EU water measures under the Water Framework Directive should embrace a cost-reflective water price, which would increase the awareness of water's appropriate value among its users as well as boost the roll-out of smart water technologies in the market, enabling sustainable management of Europe's freshwater resources.

Proper economic incentives should be set through proper water pricing or fostering green public procurement practices among member states to improve the demand for clean water technologies.

4. European solutions for global water challenges

Climate change does not stop at national or EU borders: European water technology companies need access to the world's largest and most dynamic markets, such as India, China, and African countries, where billions of people are currently left behind in terms of access to clean water and sanitation. The European water industry has enormous potential to help solve this global challenge, thereby achieving the UN sustainable development goal 6 on water.

As new water technologies can be affected by a weak protection of intellectual property, we call upon the EU to deal with this challenge through trade deals, while tackling tariff and other technical barriers.

Furthermore, the EU should continue nurturing good, open trade relations with partners, such as North America, to ensure good market access for our water technology companies.

5. Digitally-enabled water technology

Innovative digitally enabled water technologies, combined with an adapted infrastructure for water and waste water, can facilitate real-time information on water consumption, quality and availability. A wide range of these technologies such as satellite imagery, sensors and smart water metering, already have the potential to prevent water leakages, identify pollutants, increase energy efficiency and monitor water quantity.

² Source: International Energy Agency, A "[Water-Energy Nexus](#)" report, 2016, pg. 33

To fully enable a data-driven water system, the EU should mainstream digitalisation in its water policy acquis, and the Water Framework and Urban Waste Water Treatment Directives in particular, and address all the associated issues such as suitable privacy and data security, actor's awareness, cybersecurity and standardisation.

Digitally-enabled water solutions can bring us a step closer to a "water-wise" society with technologies being ready to be deployed beyond the water sector, empowering all users to make well-informed decisions. In addition, it is an area where European global tech leadership in support of a renewed industrial policy can be reinforced.

Annex: How Europe's water technologies can bring multiple benefits to citizens, the environment and economy in concrete terms - examples of smart and cost-effective technology-enabled water management:

(1) Technology transforming wastewater into green energy

Aarhus municipality in Denmark is housing the world's first energy neutral waste water treatment plant. Its Marselisborg waste water treatment plant turns waste water into energy, making the plant not only self-sufficient in term of energy consumption, but also a power station. In fact, it produces 40% more energy than it needs, as well as 2.5GW per year of heat used for the district. A new Danish water technology reduces the operational costs of the waste water treatment plant, and more importantly its carbon footprint. Making decoupling of water from energy possible, these technology solutions are a game-changer for energy saving and generating potential in global water management.

(2) Water savings enabled by an innovative leak detection system

To tackle water leakages across European water networks, a Spanish company has developed technology solutions to detect water leaks from space, on the inside of the pipeline. With a standard technological solution for leak detection in large diameter water pipelines, they provide the market with a manageable, affordable, efficient and effective solution through a recurring-use model that helps reduce non-revenue water in the world. This solution consists of a sphere inserted into the network, where it travels freely through the pipeline. The sphere detects the exact location of a leak and provides the information on the real status of the network, enabling decision making regarding pipeline renewal and leak prevention.

(3) A cost-effective solution for the largest waste water treatment plant in Africa

The world's fastest-growing city in Egypt demands a world-class waste water treatment solution. For the Gabar Al Asfal facility, this means rapid expansion to preserve water quality for more than 8 million inhabitants in eastern Cairo. An Austrian water technology company provided 93 m belt presses and process expertise to upgrade and extend a massive waste water treatment plant in Cairo, making it the world's third-largest municipal waste water treatment plant and the largest in Africa. This upgrade and expansion resulted in a total waste water treatment capacity of 2.5 million cubic meters per day, serving a population of 8 million people, while ensuring the lowest possible cost of operation.

(4) A smart solution for remote and accurate water consumption measurement information

An innovative telemetry solution, developed by a Portuguese company, enables water meters to be integrated into smart city projects, as it uses the Internet of Things.

The device is intended for water distribution companies and entities and makes it possible to interact, without human intervention, with equipment, machines and information systems.

Coupled straight to the water meter, this technology directly collects data, which is sent to the server and then presented to the user through an application or integrated directly into the management / billing system. The result is efficient and secure monitoring of residential, commercial and industrial water consumption as well as better transparency in water billing.

(5) Cost-effective and environmentally-friendly drinking water treatment solutions

A Norwegian company has patented a cost-effective and energy-efficient water treatment system used for the removal of particles and bacteria such as legionella and E-Coli from potable water/drinking water. The technology employs ultra-filtration to actually remove the bacteria; it is time efficient and operates in temperatures up to 80°C, so both cold and hot water systems can be treated. This technology can be used for different applications ranging from domestic households and industry to hospitals. As freshwater resources are finite resources, the Norwegian company is specialised in building up highly energy-efficient desalinisation manufacturing capacities to meet the drinking water demands of isolated islands, the shipping and cruising industry, and offshore installations. This technology holds huge potential in meeting the need for good quality drinking water worldwide.

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