About this Report

Europe PFAS:
Drinking Water Treatment Regulations, Technologies, and Remediation Forecasts, 2026–2036

Report at-a-glance

- PFAS Drinking Market Drivers and Trends
- Litigation Cases and Country Profiles
- Forecast Breakdown
- Regional Analysis
- Competitive Landscape
- Company Profiles
- Related Data Dashboard

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ADVANCING WATER STRATEGIES

Summary

BACKGROUND

PFAS contamination is rapidly emerging as a structural compliance challenge for drinking water utilities across Europe. Once treated as a site specific or monitoring issue, PFAS has evolved into a system wide regulatory priority following the recast EU Drinking Water Directive, which introduces binding limits for PFAS from 2026. As a result, PFAS treatment is shifting from a niche response to a core component of long-term water quality planning.

The urgency to comply is being driven by tightening regulation, rising public scrutiny, and growing awareness of long- and short-chain. PFAS risks are accelerating investment across medium and large drinking water assets. Granular activated carbon (GAC) currently dominates early deployment due to its speed and retrofit flexibility; utilities are increasingly recognizing that first-generation solutions may not represent the final compliance state.

This transition is occurring against a backdrop of phased adoption, with implementation typically lagging regulation by an estimated 3 years to 5 years, reflecting planning cycles, procurement timelines, and funding constraints. As a result, PFAS investment is expected to follow a front-loaded CAPEX wave, followed by a steadily expanding OPEX base as installed treatment fleets grow and performance requirements tighten.

Germany, Italy, France and Spain dominate PFAS drinking water investment, capturing around 60% of total European spend, with granular activated carbon underpinning early compliance with approximately an overall of 75% share of deployed capacity.

report SCOPE

This 2026–2036 forecast assesses the growth potential of PFAS drinking water in Europe, utilizing a top-down approach. The analysis evaluates country-level treatment capacity, contamination exposure, regulatory ambition, technology deployment pathways, and associated CAPEX and OPEX requirements over the next decade.

report HIGHLIGHTS

- Regulatory drivers shaping compliance timing, adoption lag, and investment sequencing
- Market sizing and forecasts for PFAS drinking water treatment across key European countries (2026–2036)
- Technology deployment trends, including the dominance of GAC and the emergence of higher technology solutions
- Competitive landscape analysis, highlighting strategic anchors, technology partners, and emerging innovators

Bluefield Insights

€3.63 billion market poised for expansion

Bluefield Research estimates that cumulative PFAS-related spend on drinking water treatment across ten European countries surpasses €3.63 billion over 2026–2036. This includes both CAPEX and OPEX. The outlook highlights the scale of investment required for utilities to comply with tightening PFAS limits, protect public health, and rebuild confidence in drinking water supplies.

- **Regulation rapidly tightens PFAS requirements in drinking water.** The recast EU Drinking Water Directive introduces binding limits for PFAS (0.1 µg/L for the sum of 20 PFAS, 0.5 µg/L for PFAS Total) by 2026, forcing utilities to move from monitoring to permanent treatment solutions.
- **Early movers such as France, the Nordics, Germany and the Netherlands, are layering national rules and incident driven measures on top of EU requirements, creating front loaded CAPEX waves on priority assets.** Over the decade, adoption spreads to gradual followers like Spain, where PFAS is integrated into broader drinking water quality and drought resilience programs, turning PFAS treatment from a niche response into standard practice on larger plants.
- **PFAS treatment stack favors scalable, proven solutions.** GAC dominates the technology mix, capturing about four to fifths of total spend as utilities bolt carbon filters onto existing trains to meet PFAS limits with manageable costs and operational complexity. IX and RO play targeted, higher-spec roles in groundwater hot spots, sensitive catchments and or complicated water strains with multi-contaminates, where utilities need deeper polishing or combined PFAS and salinity removal.
- **Investment is concentrated in medium and large treatment plants**, where each project addresses sizeable population clusters; smaller systems are upgraded more selectively or supplied via regional plants, reinforcing a centralized PFAS compliance strategy.
- **PFAS compliance in Europe is unfolding as a multistage transition rather than a one-off solution.** Utilities will first prioritize speed and regulatory certainty, deploying fast, modular systems to meet near term deadlines. Over time, attention will shift toward higher treatment, addressing short chain PFAS, optimizing lifecycle costs, and securing defensible residuals and destruction pathways. This progression opens a growing investment white space beyond first-generation adsorption, favoring platforms that can evolve as requirements tighten.

Research Methodology

KEY ASSUMPTIONS & METHODOLOGY

Macro-level Inputs:

- National drinking-water production and treatment capacities were derived from utility statistics, regulator reports, and national statistics offices, and mapped into small (<5,000 m³/d), medium (5,000–30,000 m³/d), and large (>30,000 m³/d) wastewater treatment plant (WTP) size classes.
- The share of water requiring PFAS treatment by country was estimated using available PFAS monitoring data, hotspot studies, and operator feedback (e.g., benchmarks such as 1.3% of French drinking water requiring treatment), then scaled across countries using exposure profiles, industrial footprints, and regulatory readiness.
- Adoption curves for each country were constructed to distinguish between water that newly enters PFAS treatment each year and water already going through treatment, reflecting three adoption tiers: early enforcers, regulated followers, and gradual adopters.
- Technology selection between GAC, IX, and RO was based on observed and expected preferences by country and plant size, considering source water characteristics, regulatory ambition, and cost constraints.

Assumptions:

CAPEX for PFAS treatment was calculated as:

- PFAS relevant capacity (m³/d) X by technology and country specific €/m³/d cost X deployment rate X deployment factor, for each technology, plant size, and country.
- OPEX was estimated on a €/m³ treated basis for each technology, applied to the share of water ongoing through PFAS treatment. OPEX includes media replacement (GAC/IX), energy, labor, chemicals, waste handling, and monitoring; unit costs are held constant in real terms over the forecast.
- Technology shares were constrained within realistic bands (e.g., GAC as the dominant option, IX as a polishing solution, RO as a niche high-spec barrier), with country-specific mixes reflecting local strategies such as RO-heavy Nordics versus GAC-centric Southern Europe.
- The core results reflect a baseline regulatory scenario; conservative and accelerated paths are used to bracket uncertainty around enforcement speed, adoption rates, and cost evolution, particularly for advanced barriers.

DATA SOURCES

- EU legislation and impact assessments, including the recast Drinking Water Directive and Urban Wastewater Treatment Directive.
- National drinking water and environmental regulators, ministries of health and environment, and related technical agencies.
- National statistics institutes and Eurostat for population served, abstraction volumes, and WTP capacity.
- Utility annual reports, PFAS monitoring disclosures, and public tender documents.
- Published PFAS studies and monitoring campaigns from national and regional environmental agencies.
- Case studies and technical documentation from technology suppliers and engineering firms for GAC, IX, and RO installations.
- Primary research discussions with utilities, solution providers.

Key Questions Addressed

- How large is the PFAS compliance market in European drinking water, and when will investment peak as regulation tightens?
- Which countries and plant size segments will drive the majority of PFAS treatment spend over the next decade?
- Why does granular activated carbon dominate early compliance and where does its performance and economic advantage begin to erode?
- How quickly will utilities move from regulation to implementation and what is the impact on near-term CAPEX and long-term OPEX?
- Which companies are emerging as strategic anchors in PFAS compliance, and how is the competitive landscape stratifying under EU regulation?
- Where does the next investment white space emerge beyond first-generation adsorption, and which technologies and business models are best positioned to capture it?

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List of Exhibits

Setting the Scene: Sources of PFAS Contamination in Drinking Water

PFAS are not only an industrial issue but also a systemic, cross-sector contamination challenge with lasting health and environmental impacts.

- PFAS, often referred to as "forever chemicals," are persistent pollutants that present an increasing liability for both industries and regulators.
- Per- and polyfluoroalkyl substances, or PFAS, refer to a large family of approximately 10,000 industrial compounds that are widely utilized across various sectors. Their chemical properties—strong hydrophobicity and stability—enable them to repel water, grease, and stains effectively. These substances can be found in industrial processes and in consumer products such as textiles, food packaging, nonstick cookware, firefighting foam, cosmetics, and ski wax.
- The properties of PFAS contribute to their persistence in the environment, resulting in widespread contamination. Their toxicity is primarily due to four characteristics: (1) the ability to bioaccumulate in living organisms; (2) high mobility in water, soil, and air; (3) potential for long-range transport; and (4) ecotoxicological effects that can harm both human health and the environment.
- Long-term exposure to certain PFAS compounds, such as perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and perfluorohexane sulfonic acid (PFHxS), has been linked to various negative health effects. These effects may include liver damage, disruptions in the endocrine system, impacts on the immune system, fertility issues, and developmental problems during early life.

PFAS Emissions: Primary Sources

Industrial Manufacturing: Manufacturing facilities that produce or utilize PFAS in processes such as textiles, leather, carpet, paper, cardboard, chrome plating, and semiconductors generate waste or by-products containing PFAS.

Firefighting Activities: Firefighting activities at locations such as fire stations, airports, and military bases are significant sources of PFAS due to the direct use of aqueous film-forming foams (AFFFs) that contain PFAS.

Consumer Products: PFAS are present in many common household items, including nonstick cookware, textiles, food packaging, and cosmetics. When these products are washed or disposed of, they can release PFAS into wastewater, eventually harming the environment.

Industrial Products: PFAS are present in industrial products used across several sectors, such as aerospace, automative, construction, firefighting foams, medical devices (notably polytetrafluoroethylene [PTFE]-based surgical patches), oil & gas, photolithography & semiconductors, as well as cosmetics & personal care.

Sources of PFAS contamination upstream enter the soil, water, and air where they persist due to their chemical stability.

Source: Bluefield Research

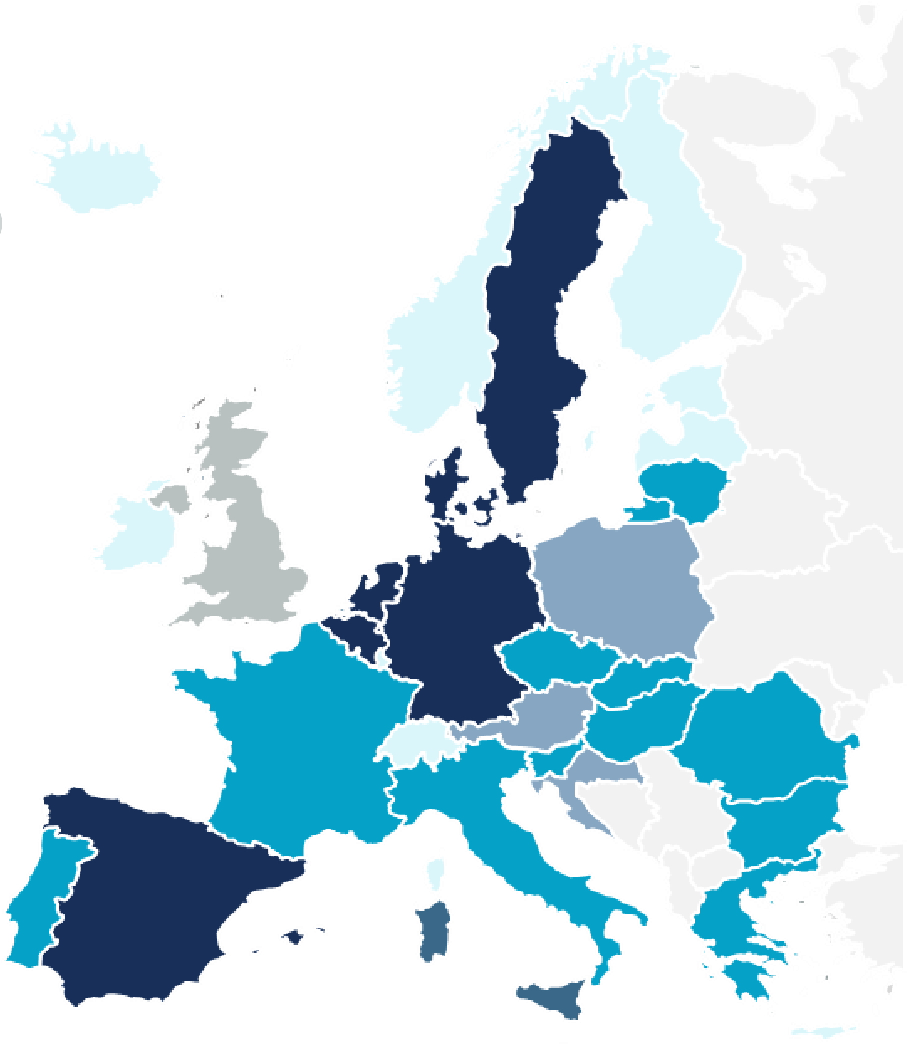
EU – Policy on PFAS in Drinking Water

Northern European countries have adopted stricter regulations than the forthcoming EU enforcement law, creating a stronger incentive to prohibit PFAS manufacturing on a larger industrial scale.

PFAS Policy in Europe

National Regulation Enforcement in the EU

- Regulation stricter than EU baseline with rules for PFAS-4
- Countries implementing EU directive with a modified sum of PFAS
- Not assessed countries
- National approach
- Countries not to have transposed EU PFAS thresholds



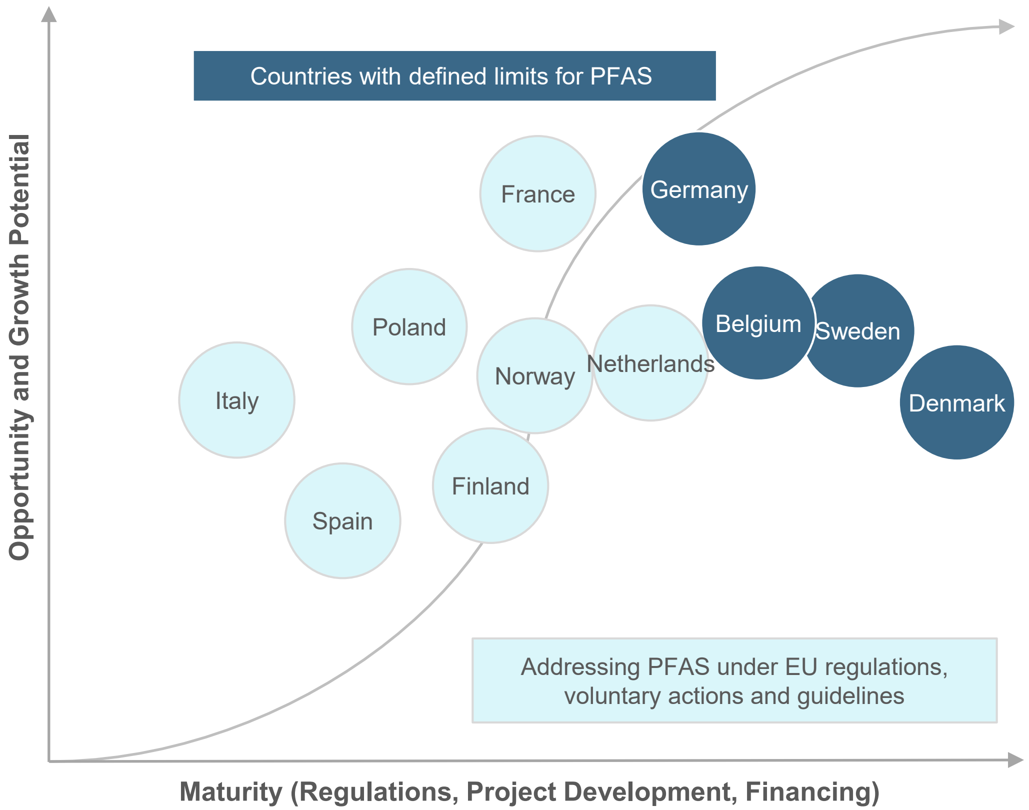
Notes: Spain has set an interim threshold of 70 nanograms per liter for the individual substances of PFAS-4 to be enforced in 2026. The German group threshold for PFAS-4 will enter into force in 2028. The U.K. requires monitoring of 47 PFAS in water used for the abstraction for drinking water; the country is not relying on standard yet, but more of a guidance from the Drinking Water Inspectorate, aiming to reduce the concentration under 100 nanograms per liter for individual per- and polyfluoroalkyl substances
Source: European Environmental Bureau, Organization for Economic Co-operation and Development, European Union Drinking Water Directive, Bluefield Research

PFAS Drinking Water Treatment Maturity Curve

European countries have advanced regulations in place for PFAS in drinking water, with more anticipated in the future. Greater opportunities arise from a broader asset base.

- Denmark is the most advanced market regarding regulation, with strict binding limits for PFAS in drinking water. However, opportunities may be limited due to the existing implementation of these regulations. Additionally, the lack of pressure on water resources has led utilities to prefer altering boreholes when contamination is detected, rather than immediately adopting treatment technologies.
- Other opportunities in Europe are emerging in Northern European countries that will be implementing binding limits soon. More stringent regulations in Sweden and Belgium, coupled with extensive industrial contamination, present significant opportunities. Germany also has a large asset base, despite having higher parametric limits.
- Emerging market opportunities can be found in countries with higher contamination risks and active industrial sectors, such as Italy. Although specific PFAS regulations are still lacking, recent legal cases like the Metini ruling, along with forthcoming EU PFAS restrictions, indicate strong potential for PFAS treatment and remediation efforts.
- In Spain, a litigation case in Galicia, primarily focused on excessive nitrogen, has also uncovered traces of PFAS. This discovery underscores the country's proactive approach to addressing broader water contamination issues.
- As PFAS contamination becomes more urgent and awareness increases, the demand for comprehensive solutions is rising, paving the way for integrated solution providers.

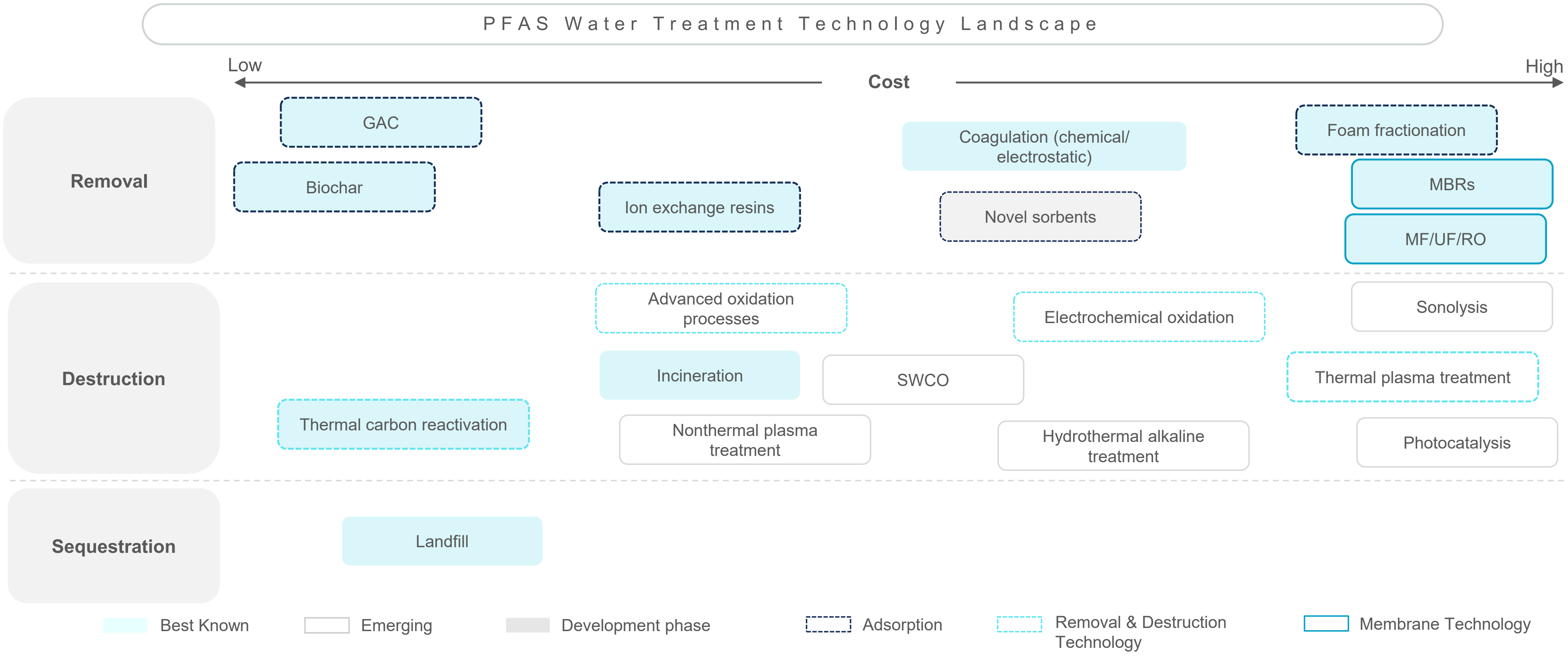
PFAS Treatment: Near-Term Opportunity and Maturity Curve



Source: Bluefield Research

Established and Emerging Technologies – Water

A variety of technologies are gaining traction in the water treatment sector but granulated active carbon (GAemergingC), Ion Exchange (IX) and Filtration remain the leading methods due to their cost-effectiveness and efficiency.



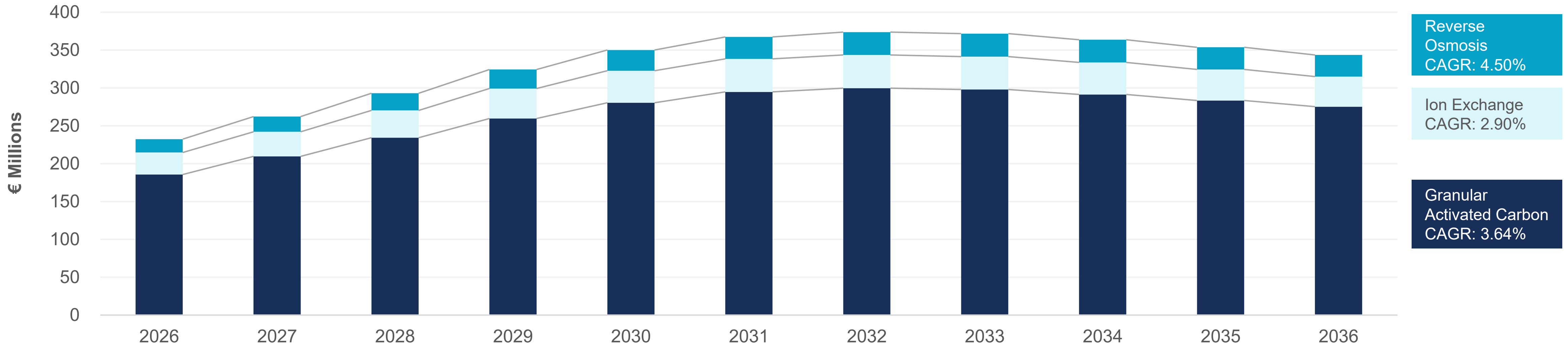
Source: Bluefield Research

The Big Picture—Overview of Europe PFAS Drinking Water Market Opportunity

Bluefield projects that Europe's total spend for PFAS drinking water will scale at an average CAGR of 3.67%, increasing from €232.4 million in 2026 to €343.6 million in 2036, resulting in a cumulative total of €3.6 billion.

- Investment in PFAS removal from European drinking water will focus on GAC systems, peaking around 2032. RO technology will grow rapidly as a specialized solution for the most severe contamination sources.
- Annual spend is projected to increase from roughly €240 million in 2026 to nearly €350 million by around 2036. After this period, spending may ease slightly but will remain significantly higher than initial levels through 2036. This trend reflects the implementation of the revised DWD, with utilities upgrading their plants in several investment phases: first upgrading the largest and most vulnerable systems, followed by medium-sized and smaller networks.
- Although starting from a smaller base, the fastest growth will be seen in RO, which is expected to grow at a CAGR of 4.5%. This signals a gradually expanding niche for high-specification drinking water projects. Overall, the market remains focused on GAC and cost optimization. Still, both RO and IX are gaining traction and require more stringent protection against multiple contaminants.

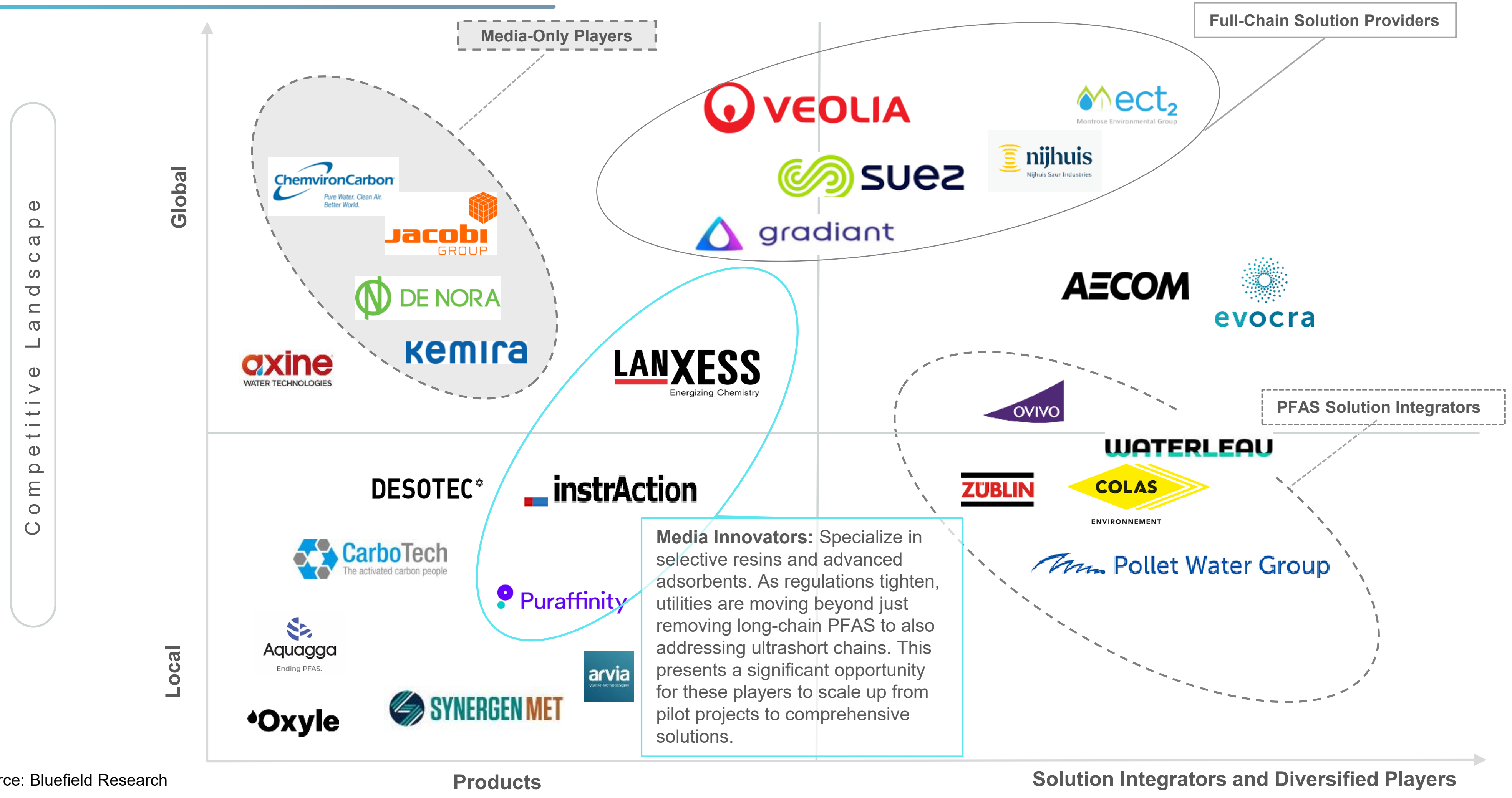
Europe PFAS Drinking Water Market Outlook, 2026–2036



Source: Bluefield Research

Comparing Positioning in PFAS Treatment for Drinking Water

In the PFAS sector, solution providers range from end-to-end integrators covering the entire value chain to niche media innovators focused on a single solution.



Source: Bluefield Research

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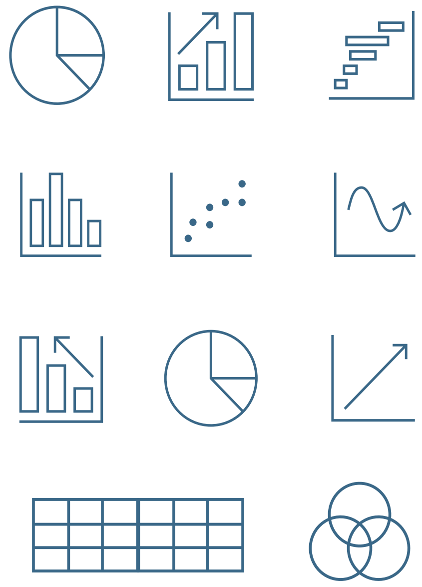
Data dashboard



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