

PFAS Landscape

PFAS regulations are tightening across Europe, with increased restrictions on banned compounds and increased scrutiny of proposed “safe limit” thresholds.

PFAS comprise a large group of synthetic chemicals, with thousands of variants including PFOS, PFOA, and PFHxS. The unique properties of PFAS chemicals also render them highly persistent, and do not readily break down in the environment.

This evolving and uncertain regulatory landscape presents significant challenges for operators, making it increasingly difficult to distinguish established facts from misconceptions. Designing treatment solutions to meet expected future limits, rather than today's minimum requirements, provides a more resilient approach. Operators who act early can better control costs, reduce regulatory risk, and protect their reputation.



“PFAS pollution is a growing concern for drinking water across Europe. With harmonised limits and mandatory monitoring now in force, Member States have the rules and tools to swiftly detect and address PFAS to protect public health.”

Jessika Roswall, Commissioner for Environment, Water Resilience and Competitive Circular Economy

Challenges Operators Face



Cost

Operational risk: Treatment costs must be weighed against employee exposure, downtime, future remediation and potential litigation risks.

Reputational risk: Local and regional pressure is increasing, especially near known PFAS users or producers.

Regulatory pressure: Public scrutiny is growing—PFAS issues rarely stay local—and there is increasing media/public attention on this issue.



Detection & Compliance

Monitoring: Many sites don't yet know their PFAS levels due to limited historical testing data and evolving detection methods.

Current limits: Drinking water already has enforceable thresholds, either in the form of guidelines or actual regulations.

What's coming: The EU is strengthening PFAS regulations, making early understanding of contamination essential for effective control.



Treatment & Removal Technologies

Removal vs. Complete Solution: Capturing PFAS is only step one; what happens next is critical.

Proper system design prevents secondary waste and future compliance issues.

Without a clear understanding of the PFAS problem a suitable solution is extremely challenging to define and implement.

PFAS Mythbuster

 Puragen

Myths

1. PFAS cannot be destroyed

Puragen operates an advanced thermal reactivation plant for spent activated carbon that destroys PFAS, **ensuring complete transformation** and preventing environmental release.

2. Incineration is the only option

Many PFAS treatment methods only capture the chemicals, leaving operators to choose between costly, high-carbon incineration or landfill. Waste exceeding **POPs (Persistent Organic Pollutants)** limits under EU Regulation 2019/1021 must be incinerated above 1,100 °C, making current approaches unsustainable for effective PFAS removal. Our approach evidences PFAS can be destroyed, and carbon media recycled.

3. Easier to do nothing – no legislation

Focusing only on current drinking water standards and limited air pollution controls creates long-term risk; early action helps future-proof systems, control costs, and safeguard compliance, operations, and reputation.

4. PFAS is just one chemical

It's a huge group of over 14,000 synthetic chemicals, with a wide range of chemical and toxicological properties, and hence environmental impacts. This makes the study and treatment of these chemicals extremely complex and challenging for producers, regulators and companies involved in removing them from water and air.

5. All activated carbon removes PFAS

Activated carbon comprises a wide range of products with distinct properties. Puragen's R&D team has developed a portfolio specifically optimised for the targeted removal of PFAS compounds.

6. All treatment solutions deliver equivalent performance.

Multiple technologies exist for PFAS removal, but granular activated carbon (GAC) is widely recognised for effective removal of a wide range of PFAS. Puragen's solution also provides a circular solution through our Search, Capture Destroy process, which enables recycling and reuse of the GAC rather than single-use alternatives, whilst also completely destroying the PFAS contaminants.

Search-Capture-Destroy



Search

Advanced laboratory techniques are used to identify and quantify specific PFAS compounds, enabling the selection of the most appropriate granular activated carbon (GAC) for effective treatment.



Capture

PFAS are then captured using GAC designed to deliver enhanced removal efficiency across a broad range of PFAS species, typically in combination with a Puragen CleanFlo® mobile filter to facilitate the process.



Destroy

Our advanced multi-stage thermal reactivation plant safely destroys PFAS in spent carbon while recycling it, providing a sustainable, future-ready solution.

Puragen's technology enables the complete destruction of PFAS captured on spent activated carbon, including POPs carbon. PFAS molecules are fully broken down, allowing the carbon to be safely recycled without landfill or incineration. For more information, contact our sales team.