

# Beyond PFAS

## End-to-End PFAS Treatment and Management Solutions for a Safer, Cleaner Future



 **VEOLIA**

# PFAS: A Global Concern

PFAS (per- and polyfluoroalkyl substances) are found everywhere in our environment. Some of them are a pressing environmental and public health concern, impacting drinking water supplies, ecosystems and communities globally.

Whether in water, soil, waste or solids, these compounds pose significant challenges, from widespread contamination to complex treatment requirements and disposal considerations — all in the context of evolving regulations.

*The information contained herein is based on the Veolia group's understanding and know-how of the scientific, regulatory and technical fields discussed herein as of the time of publication. No contractual undertaking or offer is made on the basis hereof and no representation or warranty is given as to the accuracy, completeness or suitability for the purpose of the relevant information.*



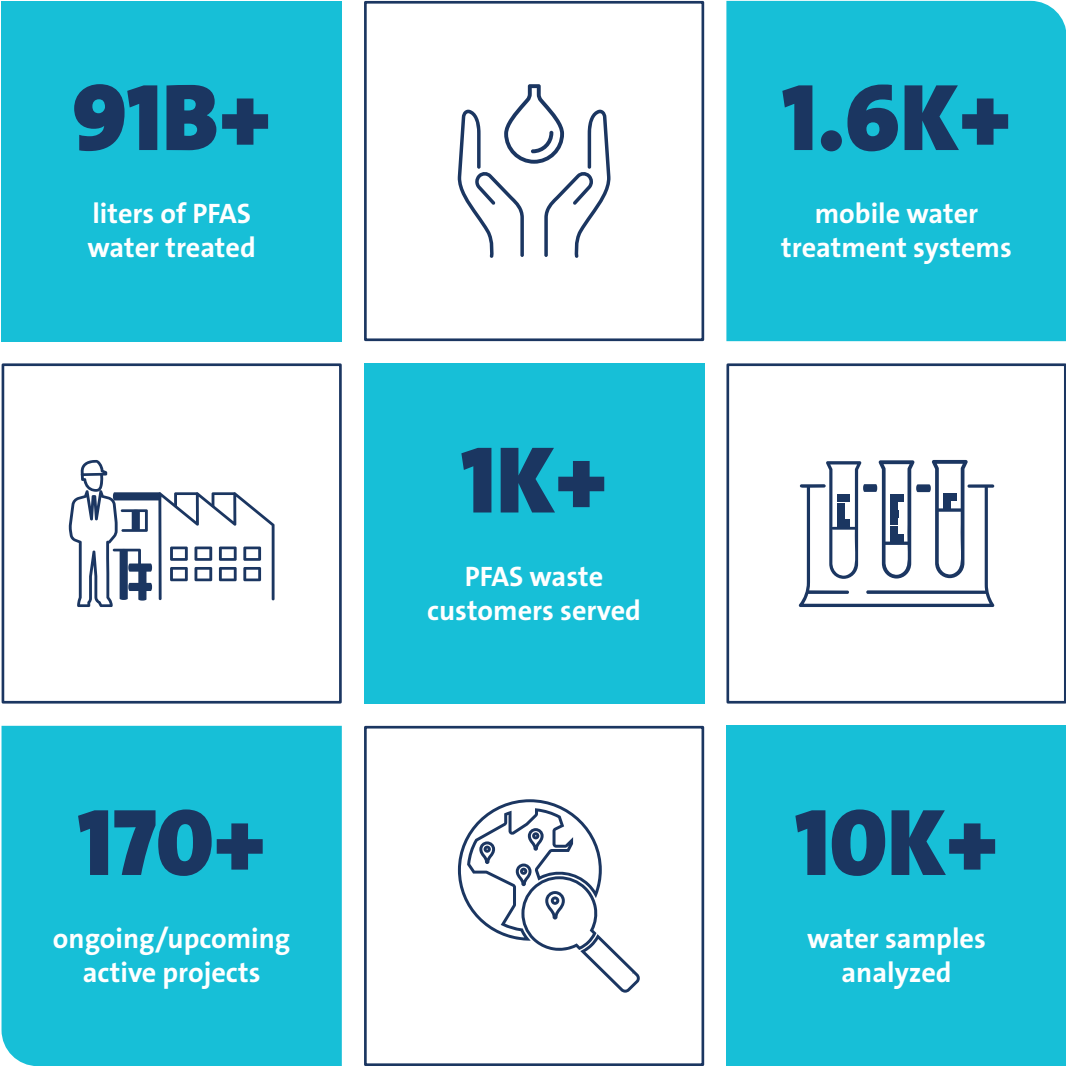
## THE BOTTOM LINE

**For municipalities and industries, addressing regulated PFAS is crucial for compliance, mitigating risks and restoring public trust in water sources.**

# Your Global Partner for PFAS Treatment and Management

As a world-class provider of technology, projects, products and services and a leader in environmental services, we're working toward a future where concerns about PFAS management are a thing of the past.

We have decades of experience implementing and operating technologies that are scientifically proven and tailored to each project. We will provide solutions to maximize your efficiency in water, waste and contaminated soil management, while complying with emerging PFAS regulations and treatment requirements.



# BeyondPFAS: Peace of Mind for Your Operations, Reputation and Communities



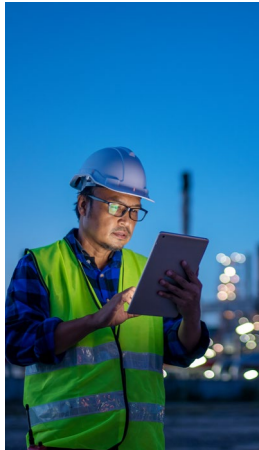


BeyondPFAS, our suite of end-to-end PFAS management solutions, is designed to support you at every step, from sampling and analysis to responsible disposal of contaminants.

Our holistic approach involves initial site assessment and sampling through implementing tailored treatment technologies based on your needs. We are committed to safely handling and disposing contaminants in line with current legislation, including high temperature incineration, thermal desorption and approved landfill.

## 4 STEP PROCESS



## BENEFITS

<b>Largest Technology Portfolio</b> 	<b>Flexible Project Delivery Models</b> 	<b>Innovative Financing</b> 	<b>Customized Waste Management</b> 	<b>Comprehensive Industrial and Municipal Experience</b> 
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# Global Leader in PFAS Treatment

Veolia is a global leader in PFAS treatment, with capabilities spanning conventional to cutting-edge technologies, from pre-treatment to polishing.

We continuously pilot new, innovative solutions such as foam fractionation and novel adsorbents to ensure your operations comply with emerging PFAS regulations and treatment requirements.



## SCIENTIFICALLY TESTED AND PROVEN TECHNOLOGIES

Granular  
Activated  
Carbon (GAC)

High Rejection  
Reverse  
Osmosis (RO)

Specialized  
Anion Exchange  
Resins

High  
Temperature  
Incineration



## INNOVATIVE SOLUTIONS

Actiflo® Carb  
high-rate  
clarification  
plus powder  
activated carbon  
(PAC)

LEAPfas™  
granular activated  
carbon and ion  
exchange lead-lag  
vessels

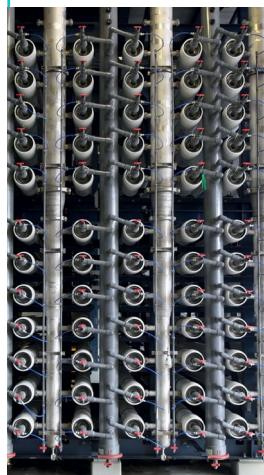
PROflex and  
SIRION™  
reverse  
osmosis  
platforms

BioCon™  
energy recovery  
system (ERS) -  
biosolids treatment  
& combustion  
system

High  
temperature  
fluid bed  
(HTFB) thermal  
oxidation

*Currently being tested*

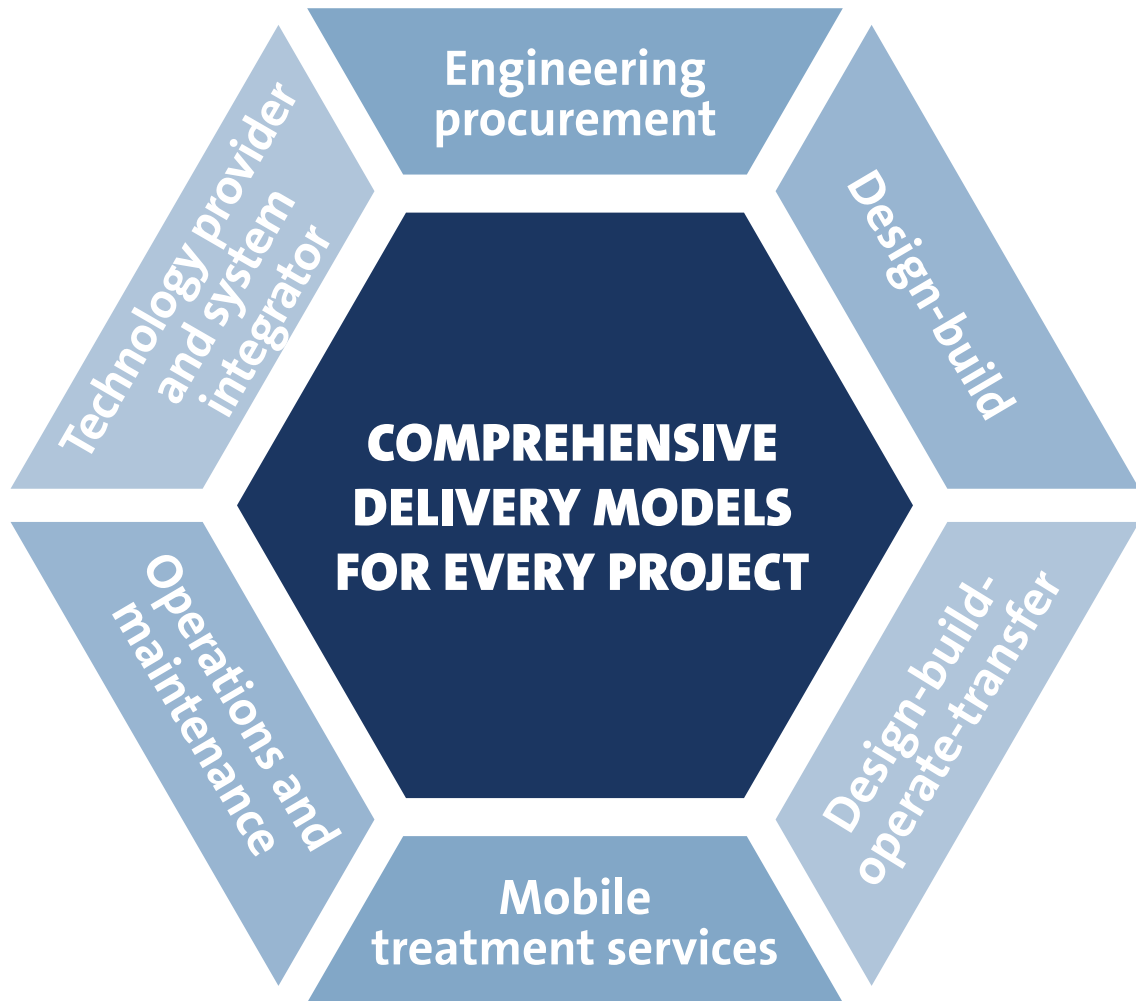
*Currently being tested*



# Flexible Solutions to Mitigate Risks

Our end-to-end solutions mean you can feel in control. It also means we can provide a tailored approach to help you streamline implementation, optimize costs, minimize risks and secure long-term operational efficiency.

Our adaptable business models allow for a smooth transition from quick-response mobile to long-term permanent water treatment equipment, meeting your changing needs. Continuity of treatment ensures you maintain regulatory compliance in water, wastewater, contaminated soil and waste management.



# Compliant, Comprehensive PFAS Waste Handling and Disposal

Veolia draws upon extensive expertise in water treatment to safely manage PFAS-containing waste for our clients. As regulations evolve, we're at the forefront, offering innovative disposal solutions to meet compliance requirements and safeguard your environmental interests.

Our solutions are designed to meet your needs — we offer secure landfilling and deep well injection, and our state-of-the-art incineration facility in Port Arthur, Texas, United States, is permitted to treat RCRA hazardous, TSCA PCBs and dioxin waste and is approved to receive CERCLA waste. All Veolia solutions are scientifically proven and fully EPA<sup>2</sup>-compliant.

**DID YOU KNOW?** **VEOLIA PORT ARTHUR SITE HAS ACHIEVED IN TESTS A DRE<sup>1</sup> UP TO 99.9999% OF TARGETED PFAS.**



## AFFF INCINERATION SOLUTIONS

### THE CHALLENGE

AFFF, a fire-fighting foam that contains PFAS compounds, is stored on-site at refineries for fire mitigation purposes. Our customer needed to remove, treat and replace the PFAS-containing AFFF.

### OUR SOLUTION

Our Port Arthur, Texas, United States, high-temperature incinerator. The incineration process has a destruction and removal efficiency of up to 99.9999%.

### WHAT SETS US APART

#### Experience

We've managed 543,396 liters of PFAS-containing AFFF via high-temperature incineration.

#### Expertise

The Port Arthur incinerator is permitted to treat RCRA hazardous waste and PCB waste, and it is the only facility in the U.S. permitted to treat dioxin waste.

<sup>1</sup> DRE = Destruction and removal efficiency.

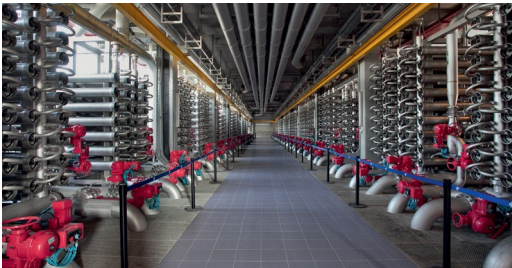
<sup>2</sup> United States' Environmental Protection Agency.

# Building Safer, Cleaner Cities with BeyondPFAS

As an owner and operator of more than 7,000 municipal water and wastewater facilities worldwide<sup>2</sup>, Veolia has already successfully implemented solutions to remove regulated PFAS chemicals.

In 2024, Veolia has been awarded the largest water management contract in Europe, a 12-year agreement with the SEDIF (Greater Paris Water Authority) including PFAS and micropollutant treatments.

**DID YOU KNOW?** **VEOLIA'S 150 CUTTING-EDGE INNOVATIONS, INCLUDING 10 WORLD PREMIERES, TO ACHIEVE EXCEPTIONAL WATER QUALITY.**



## ADDRESSING PFAS IN DRINKING WATER IN THE ÎLE-DE-FRANCE REGION, FRANCE

### THE CHALLENGE

Addressing the removal of substances soon to be banned by the Public Health Code, including micropollutants and PFAS, while guaranteeing the affordability of drinking water.

### OUR SOLUTION

A pioneering response based on our cutting-edge low pressure reverse osmosis (LPRO) technology. A membrane filtration system that allows the treatment of micropollutants.

### WHAT SETS US APART

Unrivaled expertise and ability to develop technologies for the future that closely align with real life issues facing local areas and regions.

# Comprehensive and Compliant Contaminated Soil Treatment

Our EarthSure facility draws upon extensive expertise in soil treatment to safely manage PFAS-contaminated materials for our clients. As regulations evolve, we're at the forefront, offering innovative treatment solutions to meet compliance requirements and safeguard your environmental interests.

Our solutions are designed to meet your needs — we offer thermal treatment and landfill solutions, all conveniently located at our Dandenong South facility in Victoria. Our state-of-the-art thermal desorption plant is EPA-licensed to treat PFAS-contaminated soil.

EarthSure solutions are fully EPA (Australia) compliant.

**DID YOU KNOW? EARTHSURE HAS SUCCESSFULLY TREATED 50,000T OF PFAS IMPACTED SOILS FOR BENEFICIAL REUSE SINCE 2021**



## VEOLIA'S EARTHSURE THERMAL SOIL TREATMENT FACILITY

### THE CHALLENGE

PFAS-contaminated soil requires specialised treatment and disposal solutions.

### OUR SOLUTION

Our Dandenong South facility utilises specialised thermal treatment technology to remediate contaminated soil. The two-stage process begins by heating soil to approximately 500°C to extract PFAS compounds, followed by a secondary treatment phase at over 1,100°C to ensure complete destruction of contaminants. The treated soil, verified to meet strict EPA compliance standards, is then available for beneficial reuse applications including engineered landfill cover and approved construction projects.

### WHAT SETS US APART

#### Experience

As a 50/50 joint venture between Veolia and Ventia, we leverage combined capabilities in advanced waste treatment technologies and complex environmental remediation chemistry.

#### Complete Solution

We offer comprehensive on-site treatment, including residual stabilisation, and provide EPA-approved beneficial reuse options for treated soil.

# Tailored PFAS Solutions for Every Industry

Veolia innovates to solve tough industrial challenges. With decades of experience helping companies across a wide range of industries, our proven track record includes 170+ successful industrial water PFAS ongoing/upcoming projects.

We meet the unique challenges of your market, delivering efficiencies, cost savings and sustainable practices. Whether achieving the highest purity standards for a microchip manufacturer or treating wastewater from a food processing plant, we develop targeted, compliant strategies tailored to your operations.

**Scientifically proven PFAS solutions applicable to these and other markets:**

- **Automotive**
- **Chemical processing**
- **Food and beverage**
- **Microelectronics**
- **Military operations**
- **Oil refineries**
- **Pharmaceuticals**
- **Power generation**
- **Pulp and paper**



## INDUSTRIAL PFAS WASTEWATER TREATMENT

### THE CHALLENGE

Regulations around PFAS are changing rapidly, and increased requirements for wastewater discharge resulted in operational challenges for our client.

We installed mobile treatment equipment and conducted on-site and lab testing for a full-scale solution.

### OUR SOLUTION

Using activated carbon, RO membranes and thermal technology, we designed the following treatment process:

Solids Removal → Hardness Removal → RO Concentration → Evaporation → Final PFAS treatment and discharge and reuse of treated water.

### THE OUTCOME

99% + targeted PFAS reduction, with an inlet wastewater treatment capacity of 1,200 m<sup>3</sup> per day.

**At Veolia, we empower cities and businesses to create positive ecological transformation. We are committed to protecting our communities, safeguarding the natural environment and helping our customers feel confident that what lies beyond today is a safer, cleaner future.**

## **What's Beyond PFAS?** *Peace of mind.*





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