We Know Water
The global benchmark for water

Veolia Water Technologies is the world leader in water and wastewater treatment with more than 160 years of experience. As a specialized provider of technological solutions in water treatment, from design-build projects to standard systems, Veolia applies process expertise and industry knowledge to respond to the needs of industrial clients and municipalities.

A solid foundation, a strong partner

- 350 proprietary technologies
- 60% of staff are researchers, engineers and project managers
- Delivering engineering and turnkey design-build projects
- Providing custom-tailored water treatment solutions and associated services
- Expertise ranges from process water to wastewater, product recovery and resource recycling

Leader in optimized resource management

Veolia helps develop access to, preserve and replenish the world’s resources. With over 163,000 employees worldwide, we provide water, waste and energy management solutions that contribute directly to our customers’ sustainable development and competitiveness.

The Group enables industry, local authorities and citizens to optimize their use of resources for more efficient, environmentally-friendly and socially responsible outcomes.
Veolia Water Technologies combines expertise with innovation to offer technological solutions suited to each application. Projects range in size and complexity, from large-scale design-build execution to engineering and equipment supply, to service and chemical contracts.

When designing solutions, the focus is always on the customer’s specific goals, which may include low operating costs, energy and water conservation, an optimized design for an existing footprint, or valuable resource or product recovery. The earlier we are involved, the greater the opportunity to develop the most ideal solution.

Proven expertise

Produced water treatment for oil exploration and production

Zero Liquid Waste system for mine water treatment

Zero Liquid Discharge system for a power generation facility

Primary, secondary and tertiary treatment for municipal wastewater

High quality drinking water production
Water and wastewater treatment for municipalities

Veolia provides comprehensive solutions for water and wastewater treatment and monitoring.

Drinking Water Treatment
- Clarification (with or without microsand ballast)
- Media or membrane filtration

Primary Treatment for Wastewater
- Coarse or fine screening
- Grit removal

Secondary Treatment for Wastewater
- Biological treatment of soluble pollutants
- Biological aerated filters
- Moving bed biofilm reactors
- Membrane Biological Reactor (MBR)
- Integrated Fixed Film Activated Sludge (IFAS)
- Pure oxygen activated sludge

Tertiary Treatment for Water Reuse
- Microsand ballasted clarification
- Ultrafiltration membrane
- Filtration system for fine solids removal

Wet Weather
- Flow and level control in sewer network
- Floatables removal in CSO/SSO
- High rate microsand ballasted flocculation

Biosolids and BioEnergy
- Sequential and multi-stage biological processes
- Energy efficient thermal hydrolysis
- Solar drying
- Sidestream deammonification

Pathogen Detection and Monitoring
- Automated on-site testing for e-coli and other microbiological pathogens
- Real-time monitoring of the water distribution system
- Detection of changes in water quality

Odor Monitoring and Treatment
- Continuous monitoring of odors and sulfide emissions
- Automate collection system chemical dosing for H2S control
Water and wastewater treatment for industries

Veolia provides custom and sustainable solutions for a wide range of industries as well as commercial and general manufacturing facilities.

Oil & Gas
• Solutions for upstream and downstream applications
• Water treatment for Steam Assisted Gravity Drainage (SAGD), hydraulic fracturing and conventional exploration activities
• Integrated approach to expedite schedule and minimize risk

Mining
• Potable, process and wastewater treatment solutions
• Innovative technologies for metals, arsenic, selenium and sulfate removal
• Zero Liquid Waste (ZLW) systems that minimize environmental risk

Chemical Processing / Pharma
• Process and wastewater treatment
• Small footprint technologies
• By-product recovery
• Processes for pure products from natural deposits

Food & Beverage
• Process water expertise ensuring consistent safety, hygiene and quality
• Solutions for sustainable use of water resources
• Water cycle management through recycle and reuse

Primary Metals
• Innovative technologies for recycle and reuse
• Resource recovery solutions for alkaline cleaner, acids and metals

Power
• Pretreatment of supply water and boiler feed water
• Cooling tower sidestream and blowdown treatment
• Condensate polishing and Zero Liquid Discharge (ZLD) systems

Biofuels
• Process and utility water supply
• Stillage treatment for recycle and recovery
• Compliant effluent discharge
• Biogas recovery

Pulp & Paper
• Black liquor evaporator and chemical recovery
• Removal of chloride and potassium
• Supply water and wastewater treatment

1 – Recovery/reuse of biogas, biosolids and water
Diageo rum distillery, USVI
2 – High-rate river water clarification
ThyssenKrupp steelmaking facilities, Alabama
3 – Produced water treatment
Chevron, California
Solutions for projects of all sizes

Flexible project delivery options meet a variety of procurement preferences, from custom and standard equipment to design-build contracts.

Integrated Design-Build Solutions

Integrated design-build projects ensure a successful start-up with one overall point of contact and responsibility. Veolia has the expertise on staff to provide:
• Planning and scheduling
• Health and safety programs
• Design engineering
• Cost control procurement
• Construction management
• System start-up
• Operator training

These comprehensive capabilities ensure that your project is completed safely, on time, within budget, and in compliance with all environmental regulations.

Customized and Standardized Water Treatment Equipment

Custom-designed equipment is manufactured and installed to meet each client’s unique needs. Standard solutions are also available for those clients who do not require a custom system.
• Custom-engineered, skid-mounted membrane systems including reverse osmosis, microfiltration, nanofiltration, ultrafiltration and ceramic membranes
• Water softeners, demineralizers and customized systems for a wide array of water quality needs
• Application-specific chemical feed and control systems

Modular Supply Expertise

Veolia supplies modular systems for projects in remote areas where labor availability can be limited or cost prohibitive. All major process vessels are fully built-up with the balance of the structure, piping, and ancillary equipment supplied on modules or skidded to the greatest extent possible.

Modularization can be a highly-effective solution for these types of projects with proper design, fabrication know-how, and expert execution.
Service

As the global benchmark of water solutions, we secure our customers’ performance through world-renowned technologies and expertise. These capabilities combined with operating experience form the basis for ongoing improvements and synergies leading to best-in-class service.

**Water Strategy Development**
We evaluate and develop water management alternatives for existing facilities to meet cost-saving and sustainability goals.

**Mobile Water Services**
Temporary and supplemental mobile solutions ensure the ongoing performance of your installations.

**Hydrex™ Water Treatment Chemicals**
Optimize your entire water cycle, chemical consumption, operating and maintenance costs.

**Service Deionization (SDI)**
We offer a large range of exchangeable cylinders with a variety of water purification media to suit your application.

**Spare Parts and Consumables**
Aftermarket supplies and services ensure system reliability and minimize downtime.

**Field Services**
Water services provided by our field engineers and industrial water specialists allow customers to focus on their core business.

**Pilot Plant Operation**
Pilot testing optimizes design parameters before full-scale design and enables us to offer process guarantees.

**Lab and Bench-scale Testing**
Process development with your water samples ensures the best solution for your application.

**Start-up, Commissioning and Troubleshooting**
Our trained treatment plant operators bring hands-on experience to your site to ensure optimal operation of your systems.

**Operator Training**
Personnel training and operation and maintenance manuals are included in our design-build project delivery.

**Operation and Maintenance**
Long-term operation and maintenance contracts ensure continual process optimization and effectively extend our performance guarantee through the life of the contract.

**Mobile Water Services**
Temporary and supplemental mobile solutions ensure the ongoing performance of your installations.

**Hydrex™ Water Treatment Chemicals**
Optimize your entire water cycle, chemical consumption, operating and maintenance costs.

**Service Deionization (SDI)**
We offer a large range of exchangeable cylinders with a variety of water purification media to suit your application.

**Spare Parts and Consumables**
Aftermarket supplies and services ensure system reliability and minimize downtime.

**Field Services**
Water services provided by our field engineers and industrial water specialists allow customers to focus on their core business.
State of the art technologies

With a comprehensive range of solutions and technologies developed to leverage the value of water and wastewater resources, Veolia ensures the best possible solution for your application. For each project, we identify ways to add value for our customers. Below is a selection of some of our technologies.

<table>
<thead>
<tr>
<th><strong>Biothane® Anaerobic Treatment</strong></th>
<th><strong>OPUS® Technology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Highly efficient, cost-effective anaerobic processes reduce pollution and recover energy with a minimal environmental impact</td>
<td>• Proprietary technology designed to treat complex industrial wastewaters with high scaling and fouling potential</td>
</tr>
<tr>
<td>• Memthane® anaerobic membrane bioreactor for industrial strength water</td>
<td>• Produces high quality effluent at a high water recovery rate with low waste volume</td>
</tr>
<tr>
<td>• UASB and Biobed® EGSB anaerobic digestion for wastewater treatment</td>
<td>• Available in two pretreatment configurations</td>
</tr>
<tr>
<td>• Biobulk® CSTR mesophilic and thermophilic digester technology</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>AnoxKaldnes™ Moving Bed Biofilm Reactor</strong></th>
<th><strong>Whittier™ Filtration and Separation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• BOD and COD removal in a small footprint</td>
<td>• Filtration and separation technologies for operating efficiency and easy maintenance</td>
</tr>
<tr>
<td>• Available as custom or pre-engineered systems that are easy to operate</td>
<td>• Unique designs ensure durability in industrial processes</td>
</tr>
<tr>
<td>• Easy retrofit can double wastewater treatment capacity</td>
<td>• Proprietary Macro Porous Polymer Extraction (MPPE) technology for 99.9999% removal of hydrocarbons</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ACTIFLO® Clarification and Softening</strong></th>
<th><strong>HPD® Evaporation and Crystallization</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• A compact, highly efficient clarification process available in packaged plants, mobile units and engineered systems</td>
<td>• Evaporation and crystallization technologies recover valuable products and byproducts</td>
</tr>
<tr>
<td>• An ideal solution to treat raw water, wastewater or recycle valuable utility water</td>
<td>• Zero Liquid Discharge technology reclaims water resources and reduces effluent volume</td>
</tr>
<tr>
<td>• Process modifications available for metals removal, softening and other applications</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Whittier™ Filtration and Separation</strong></th>
<th><strong>OPUS® Technology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Filtration and separation technologies for operating efficiency and easy maintenance</td>
<td>• Proprietary technology designed to treat complex industrial wastewaters with high scaling and fouling potential</td>
</tr>
<tr>
<td>• Unique designs ensure durability in industrial processes</td>
<td>• Produces high quality effluent at a high water recovery rate with low waste volume</td>
</tr>
<tr>
<td>• Proprietary Macro Porous Polymer Extraction (MPPE) technology for 99.9999% removal of hydrocarbons</td>
<td>• Available in two pretreatment configurations</td>
</tr>
</tbody>
</table>
to optimize and reuse the world’s water resources

We identify opportunities to recycle and reuse of resources, recover products and produce energy as part of our water treatment processes. Through extensive research and development, Veolia is committed to providing sustainable technologies and value-added engineering to our clients.

BioCon® Biosolids Thermal Dryer
- Dual-belt dryer for safe, easy and efficient operations
- System designed for significant heat recovery and energy savings
- Significant mass reduction with reduced storage, transportation and disposal costs
- Flexibility in end product characteristics, achieving maximum value in the beneficial reuse market

IDRAFLOT® Dissolved Air Flotation
- Uses “Multi-DAF” technology to enhance thickening and clarification performance
- Reduces chemical additive usage
- Uniform air distribution throughout the length of the unit
- Compact footprint

Hydrotech™ Discfilter
- Simple, effective and economical filtration in small footprint
- Ideal for tertiary filtration, water reuse and solids removal
- Available for placement into concrete basin or as stand-alone units with stainless steel tank
- California Title 22 approved

BIOSTYR® Duo
- Combining BAF and MBBR technologies in a single unit process for superior treatment performance
- BIOSTYR DUO occupies a fraction of the footprint of other biological treatment technologies
- BOD, TSS and Nitrogen loading rates accommodate wide range of primary solids removals, with or without chemical addition

ANITA™ Mox
- Robust anammox MBBR and IFAS processes
- Exceptional nitrogen removal from high strength ammonia streams
- Savings from reduced aeration, chemical dosing, and solids handling
- Small footprint and easy-to-operate

BioCon® Biosolids Thermal Dryer
- Dual-belt dryer for safe, easy and efficient operations
- System designed for significant heat recovery and energy savings
- Significant mass reduction with reduced storage, transportation and disposal costs
- Flexibility in end product characteristics, achieving maximum value in the beneficial reuse market

IDRAFLOT® Dissolved Air Flotation
- Uses “Multi-DAF” technology to enhance thickening and clarification performance
- Reduces chemical additive usage
- Uniform air distribution throughout the length of the unit
- Compact footprint

Hydrotech™ Discfilter
- Simple, effective and economical filtration in small footprint
- Ideal for tertiary filtration, water reuse and solids removal
- Available for placement into concrete basin or as stand-alone units with stainless steel tank
- California Title 22 approved

BIOSTYR® Duo
- Combining BAF and MBBR technologies in a single unit process for superior treatment performance
- BIOSTYR DUO occupies a fraction of the footprint of other biological treatment technologies
- BOD, TSS and Nitrogen loading rates accommodate wide range of primary solids removals, with or without chemical addition

ANITA™ Mox
- Robust anammox MBBR and IFAS processes
- Exceptional nitrogen removal from high strength ammonia streams
- Savings from reduced aeration, chemical dosing, and solids handling
- Small footprint and easy-to-operate
Responsibility is the cornerstone of all our business activities

We support our customers’ environmental and economic challenges by providing innovative and sustainable carbon and water footprint programs. Internally our responsibility is reflected in our safety management, diversity and personnel engagement.

As part of Veolia Environnement, the world’s largest environmental solutions company, we understand the importance of our social responsibility to help protect the valuable resources of our planet for future generations. That’s why we pride ourselves on developing unique proprietary technologies that aid in water reuse and recycle as well as by-product and resource recovery.

Safety First

Strong commitment to health and safety

Safety is Veolia’s number one priority and an integral part of our corporate culture.

Maintaining a zero work-related accident record is our goal, both in our own office locations and at our clients’ sites.

Safety awareness is emphasized at each project site through training sessions for all employees and contractors.

Employees are encouraged to be vigilant and proactive in identifying potential risks to maintain a safe working environment.

Environmental Footprint Programs

Veolia’s Water Impact Index (WIIX) expands on existing volume-based water measurement tools by factoring in three essential elements: quantity of water used, level of stress upon water resources and overall water quality.

The True Cost of Water program combines traditional CAPEX and OPEX calculations with the analysis of water risks and their financial implications to calculate the actual costs associated with water at a facility.

The Carbon Footprint Reduction program accelerates the adoption and development of clean technologies for water treatment and provides our customers with sustainable solutions.

Water is too valuable to be used only once

As part of Veolia Environnement, the world’s largest environmental solutions company, we understand the importance of our social responsibility to help protect the valuable resources of our planet for future generations. That’s why we pride ourselves on developing unique proprietary technologies that aid in water reuse and recycle as well as by-product and resource recovery.
**Veolia Water Technologies in North America**

**Why Veolia? Because we know water**

- Veolia’s process expertise and innovative culture result in continual improvement of our technologies and integrated system designs.
- Our customer-oriented approach ensures the optimal solution and best value for each project.
- Flexible project delivery options enable contracts tailored to our clients’ purchasing preferences.
- Safety is our #1 priority and an integral part of our corporate culture.
- We are a global company with local offices units worldwide.
Resourcing the world