

Integrated Water Treatment Solutions for Effective Contaminant Removal

With decades of expertise in advanced water purification, Birchtech delivers **end-to-end treatment systems** that combine technology, data, and engineering precision.

Our collaborative model brings together **consultants, utilities, and technology providers** to create efficient, sustainable, and compliant water treatment solutions.

The Water Treatment Challenge

Utilities and industries today face growing operational and regulatory challenges in maintaining consistent water quality.

Limited Internal Resources



Many facilities lack in-house technical teams or capacity for frequent system upgrades.

Aging Systems



Legacy infrastructure often restricts performance, efficiency, and compliance potential.

Budget Constraints



Funding limitations require scalable, cost-conscious treatment models.

Evolving Regulations



Tightening standards for PFAS, arsenic, and heavy metals demand data-driven solutions.

The Integration Advantage

At the core of Birchtech's approach lies integration — bringing together advanced media, precise engineering, and reliable data validation to create treatment systems that perform consistently and deliver measurable impact.

Technology Providers

Delivering the Right Solutions for Every Challenge

Birchtech collaborates with leading global suppliers to identify, test, and integrate top-performing treatment media and equipment.

From **PFAS and arsenic** to **selenium and iron**, we recommend the most effective technologies based on data, not product affiliation.

Our Approach: Performance-driven, media-neutral recommendations tailored to each site's specific water profile.

Engineering Collaboration

Turning Technical Design into Operational Reality

We work alongside environmental engineering partners to ensure each system is designed for **efficiency, scalability, and compliance**.

By aligning field-validated technologies with practical design standards, we bridge the gap between concept and execution — maximizing system uptime and treatment performance.

Client Implementation

Transforming Water Treatment from Challenge to Asset

Birchtech partners directly with industrial facilities and utility operators to define treatment goals, diagnose system constraints, and implement validated solutions that enhance reliability and lower lifecycle costs.

Focus Areas: PFAS mitigation, heavy-metal removal, process optimization, and infrastructure upgrades.

Data & Validation

Every Solution Backed by Proven Data

Before deployment, each system undergoes rigorous **pilot testing, lab analysis, and operational modeling** through our RRSC Design Center.

We confirm contaminant removal efficiency, predict media lifespan, and ensure long-term ROI.

Commitment: Verified efficiency. Measured results. Continuous improvement.



Water Treatment Services

At **Birchtech**, we provide complete end-to-end water treatment programs that address critical quality and compliance challenges.



Water Treatment Consultation

Through our RSCCT Design Center, specialists assess your site's water composition and operational requirements to determine the most effective treatment pathway for long-term reliability.



Custom System Design

Our Design Centers engineer customized configurations for **potable, process, and industrial wastewater** applications.

Each system is purpose-built to meet stringent regulatory standards while optimizing performance and cost efficiency.



Operational Support

Birchtech's experienced engineers and R&D professionals offer collaborative technical guidance that ensures dependable operation, sustained efficiency, and full compliance throughout the system's life cycle.



Equipment & Media Supply

From precision filtration systems to contaminant-specific media—including **activated carbon** and **ion-exchange resins**—we supply and install best-in-class technologies matched to each utility's water profile.

Available media options include:

Activated Carbon · Catalytic Carbon · Ion Exchange Resin · Mixed Media



Super Enhanced Adsorbitive (SEA™) Technologies

Birchtech's Super Enhanced Adsorbitive (SEA™) Technologies represent a cutting-edge advancement in water treatment solutions, designed to deliver exceptional contaminant removal through highly efficient adsorption processes. Leveraging proprietary materials and surface modification techniques, SEA™ Technology maximizes adsorption capacity and selectivity—effectively targeting heavy metals, PFAS, organics, and other emerging pollutants. Unlike conventional filtration methods, SEA™ systems provide rapid purification, longer media life, and lower operational costs, making them ideal for municipal, industrial, and environmental remediation applications.

By combining innovation, performance, and sustainability, Birchtech's SEA™ Technologies set a new standard for more affordable, reliable and eco-conscious water purification.

Common Contaminants We Remove

Birchtech's advanced processes effectively eliminate a wide range of harmful substances, including:



Arsenic



Selenium



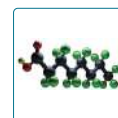
Mercury



Chromium



Other Heavy Metals



PFAS (Per- and polyfluoroalkyl substances)

Our capabilities extend beyond these examples to address numerous additional heavy metals and toxins.

For specialized contaminant profiles, please contact **Birchtech** to discuss tailored treatment options.

Contact Us Today

+1 614-505-6115 ext 6

sales@birchtech.com

birchtech.com

Carbon Development & Thermal Reactivation Design Center
State College, PA

Expert Analysis, RSSCT Design Center
Grand Forks, ND