Birchtech

America's Clean Coal & Clean Water Company

Investor Presentation

October 2025

OTCQB: BCHT | TSX:BCHT

Forward Looking Statements

Birchtech™

With the exception of historical information contained in this presentation, content herein may contain "forward-looking statements" that are made pursuant to the Safe Harbor Provisions of the U.S. Private Securities Litigation Reform Act of 1995 or forward-looking information under applicable Canadian securities laws (collectively, "forward-looking statements"). Forward-looking statements are generally identified by using words such as "anticipate," "believe," "plan," "expect," "intend," "will," and similar expressions, but these words are not the exclusive means of identifying forward-looking statements. Forward-looking statements in this presentation include statements relating to expected developments and growth in Birchtech's business. These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. You are cautioned that forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from the statements made.

This presentation also contains estimates and other statistical data made by independent parties and by the Company relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Neither the Company nor any other person makes any representation as to the accuracy or completeness of such data or undertakes any obligation to update such data after the date of this presentation. In addition, the Company's potential market share, projections, assumptions, and estimates of the Company's future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors. These and other factors could cause results or outcomes to differ materially from those expressed in the estimates made by the Company.

Except as expressly required by the federal securities laws, we undertake no obligation to update such factors or to publicly announce the results of any of the forward-looking statements contained herein to reflect future events, developments, or changed circumstances or for any other reason. Investors are cautioned that all forward-looking statements involve risks and uncertainties, including those detailed in Birchtech's filings with the Securities and Exchange Commission.

Disclaimer:
This presentation is for information purposes only and does not constitute an offer to sell or the solicitation of an offer to buy any securities. Any such offer will only be made in compliance with applicable securities laws and subject to execution of definitive documents.

Birchtech Overview

Birchtech develops activated carbon technologies & provides consulting services to remove mercury from the air we breathe & 'forever chemicals' from the water we drink

Our team includes THE LEADING activated carbon experts in the U.S., allowing us to drive environmental technology innovation in air & water

Clean Air Technologies

- Established, core business
- Reducing mercury emissions
- Patented SEA® Sorbent Technology used at 80% of U.S. coal-fired power plants that use sorbent technology removal system[1]

$268M
Revenues generated (to-date & expected)[2]

Clean Water Technologies

- New entrant into multi-billion-dollar market for PFAS removal ("forever chemicals")
- Applies activated carbon expertise to treat water
- Near-term EPA regulations for PFAS compliance

$1.5B
In annual PFAS compliance costs[6]

Strong IP Portfolio & Successful Enforcement Strategy:

- 33 total patents (and new provisional patent applications for the water business)
- Successfully secured $35M in license agreements and income from legal claims from infringing parties to-date
- $57M awarded by unanimous jury with a finding of willful infringement; final judgment pending

Regulatory Tailwinds: U.S. EPA regulations provide long-term tailwinds for both air (MATS regulation) & water purification (PFAS regulations for U.S. water utilities beginning 2027)[1,3]

OTCQB: BCHT ● TSX: BCHT

Share Price[4]	$0.73
Market Cap[4]	$70.2M
Q2 2025 Revenue[5]	$3.3M
Q2 2025 Gross Margin[5]	29.8%
TTM Revenues & Income from Legal Claims[5]	$17.2M
Shares Outstanding[5]	97M
Float	66M
Insider Ownership	21%

1) Management Estimates
2) Revenues generated to-date & income pending from jury award
3) PFAS regulations utility costs from Table 6-1 Example Summary Cost Table for Potential Regulatory MCL of 4 ppt PFOA and PFOS
4) **USD, As of 9/4/2025**
5) **As of 6/30/2025**
6) EPA Estimate

Customized Solutions for Cleaner Air & Water

The Problem

Coal used at utilities & water contaminants in various geographic regions vary greatly across the U.S.

The Solution

Leveraging decades of expertise, Birchtech offers each customer a tailored solution using activated carbon in air & water treatment

The Result

Customized solutions are **more economical & effective** at capturing mercury (air) and treating municipal & industrial wastewater, while reducing environmental footprint & meeting EPA regulations

Mercury Emissions Removal

Over-Exposure to Mercury can Lead to:

Neurological Damage: Mercury exposure can harm the nervous system, particularly in developing fetuses and young children, affecting cognitive function, motor skills, and memory

Cardiovascular Effects: In adults, mercury exposure has been linked to increased risks of high blood pressure and heart disease

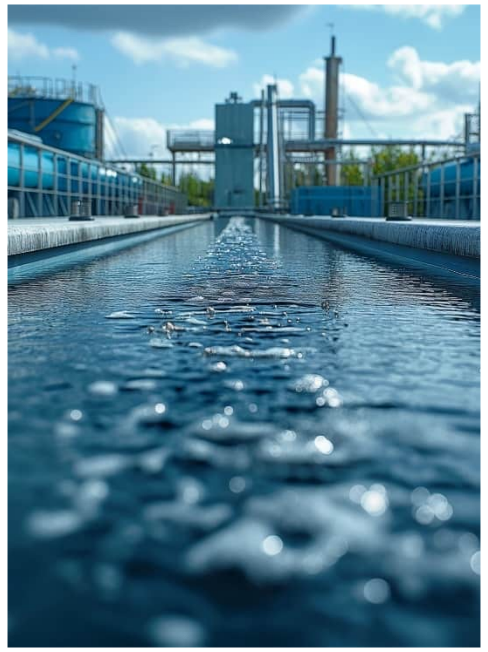
Pregnancy Risks: Mercury exposure during pregnancy can result in developmental delays, brain damage, and other birth defects

Comprehensive Water Treatment Solutions

Exposure to PFAS Chemicals can Lead to:

Pregnancy Risks: High blood pressure in pregnant women, decreased fertility, low birth weight & bone variations, among others

Reduced Immunization: Increased cancer risk & reduced ability of the body's immune system to fight infections, including reduced vaccine responses



Our Go-To Market Strategy

Growing Our Air Business, Defending of our IP Portfolio & Moving Rapidly Into Water Treatment

Emissions Control
$150 Million – U.S. Market

Clean Air Technologies: Mercury Emissions - SEA®

- Developed in early-2000s, 1st US Contract in 2011 - $60 Million+ spent on R&D with 35 Active Patents
- Variations of proprietary SEA® technology believed to be in use at 40% of U.S. coal-fired power plants that are using sorbent technologies (others use expensive infrastructure)

SEA® Patent Enforcement Now in Action

- Numerous Utilities have recognized the strength of Birchtech's patents through license/supply agreements
- **Secured $35M in income from legal claims & license agreements, plus plus additional consideration in settlements; won $57M jury award for 'willful infringement'**
- Infringing power plants engaged in ongoing discussions, with new suits and legal actions underway alongside world-class counsel

Water Treatment
$1.5B Annually – Expected U.S. Market

Clean Water Technologies: Potable & Wastewater Treatment Solutions

- PFAS regulations will impose significant financial burdens on U.S. water utilities, with compliance costs estimated at $1.5B annually over the next five years
- Two new world-class "Design Centers" focused on Carbon Development, enabling the creation of advanced water treatment solutions for nationwide utility testing
- New tech launching with commercialization to begin this year to help utilities stay ahead of evolving regulations, with Activated Carbon recognized as the "best available technology" by the EPA

Birchtech™

Patented Technologies to Remove Mercury From Power Plant Emissions

Our Established, Legacy Air Business

Customized Solutions for Coal-Fired Power Plants to Reduce Mercury Emissions

- **Coal-fired powerplants account for 16% of U.S. power** & is projected to remain a significant fuel source through 2050
- Our **patented SEA® Technology** is a two-part system that helps coal-fired power plants **meet or exceed EPA regulations** at a **lower cost** than competitors
  - ➢ **Part 1:** SEA (halide mixture that oxidizes elemental mercury) injected directly into the boiler
  - ➢ **Part 2:** A back-end sorbent injection system (injects activated carbon)
- Our team **customizes solutions** to match fuel type & boiler configurations
- Custom-built material handling center in Texarkana supports existing supply business, expected to support new product development and distribution for water purification solutions
- **Air business revenue run-rate to ramp to at least $40M by the end of 2026**:
  - ✓ $18M in Estimated 2025 Air Business Revenues[1]
  - ✓ Current Customers under contract (TTM Revenues of $17.2M, excluding income from legal claims)[2]
  - ✓ IP settlement agreements from infringing parties ($35M+)
- **Ongoing post-trial outreach aims to convert technology users to customers, with new litigation underway and additional suits expected**

✓ Less Product

✓ More Effective

✓ Lower Cost

1) Preliminary revenue guidance for the fiscal year ending December 31, 2025 (excludes cash received from legal claims or water treatment revenue)
2) As of Q1 (3/31/2025)

High Margin, Recurring Revenues

With Multiple Opportunities to Scale

We generate revenue in our core mercury emissions technologies from two primary sources:

Product Sales with Consulting Services (Recurring)

Ongoing supply of proprietary SEA® material & sorbent material. Supply customers receive regular field analyses, optimized design of injection services, stack emission testing to ensure that our product applications are optimized with plant operations and infrastructure

Licensing Agreement Revenues

Royalties and fees from technology adoption by utilities and industrial partners

Long-Term Supply Clients and/or License Agreement Partners

Vistra Energy · Entergy · TransAlta · San Miguel Electric Cooperative · Basin Electric Power Cooperative · Arizona G&T Cooperatives · WFEC western farmers electric cooperative · AEP American Electric Power · Apache · Talen Energy · nrg

$2M

Average Annual Revenue per Power Utility Customer

3-5 Years

Typical Contract Length

+30%

Gross Margins

1) Preliminary revenue guidance for the fiscal year ending December 31, 2025 (excludes cash received from legal claims or water treatment revenue)
2) As of Q1 (3/31/2025)

Illustrative Customer Economics for Air

License/Supply Agreements Improve Cash Position, Increase Market Share of Core Business

In 2019, the Company filed an IP patent infringement suit based on unauthorized use of its patented technologies for mercury emissions capture, alleging that the refined coal Defendants caused significant business harm and obtained significant value from their use of the Company's technologies

Business-first Approach:

Resulted in licensing revenues & long-term supply agreements. Upon settlement or court ruling of infringement:

- Utilities **pay us a licensing fee after their current supply contracts expire** with competitors
- **Lock in long-term supply contracts**, which often offer attractive economics for both parties

Success To-Date:

Many utilities have settled or entered into license agreements, resulting in **over $35M plus additional consideration in settlements** (structured as long-term supply and licensing agreements)

In February 2024, **$57M was awarded by jury** for willful infringement (final judgment expected in 2025)

$160M requested (in total) from the court for past damages

Ongoing Litigation:

Infringing power plants remain engaged in discussions, with additional lawsuits & legal actions now underway.

$57M+

Awarded by Jury with final judgment expected in 2025 – between $57 and $159M

$20M+

Additional expected annual product supply revenue potential

100%

Success rate in enforcing our intellectual property rights to-date

1) Preliminary revenue guidance for the fiscal year ending December 31, 2025 (excludes cash received from legal claims or water treatment revenue)
2) As of Q1 (3/31/2025)

Illustrative Customer Economics for Air

Current Customers & Flow Through Economics of Patent Protection Strategy

Current Customer Example

Annual

Annual Supply Agreement (per EGU)	**$2,000,000**
Cost of Sales	**$1,400,000**
Gross Profit	**$600,000**

Current revenue run-rate of $17.3M TTM & stable customer base with long-term contracts and 30%+ gross margins on product sales

IP License/Supply Agreement Customer Example

$2,000,000 Upfront Licensing Fee

Clients that either settle or lose in an IP infringement suit typically have supply agreements in place with competitors.

Our business-first approach to IP litigation may allow customers to pay a nominal licensing fee until the existing supply agreement ends

$10,000,000 Product Supply Over 5 Year Term

Following the expiration of supply agreements with competitors, we seek long-term supply agreements, which generate a 30%+ gross margin profile

A revenue run rate of $25 million creates significant operating leverage, resulting in EBITDA margins of +30%

Note: Example shown above is applicable to negotiated settlements only that do not require protracted litigation from Birchtech.

Birchtech™

Leveraging Expertise in Activated Carbon to Affordably Provide Cleaner Water for American Communities

More Affordable Technologies for Water Purification

Leveraging Our Team's Deep Experience with Activated Carbon

Problem	Exposure to PFAS chemicals can lead to **pregnancy risks, increased cancer risk**, & **reduced ability** of the **body's immune** system
How?	Engineering expertise with **virgin GAC**, **reactivated GAC**, **testing & consulting** services
What?	Activated carbon is the primary material used to **trap water contaminants**, such as **PFAO/PFOS**
Solution	Our team can test specific water sources for contaminant levels to create custom GAC solutions to support **new EPA regulations, reduce expenses, improve efficiency**

*The U.S. EPA's Administrator, Lee Zeldin, has proposed extending the compliance deadline from 2029 to 2031. The final ruling on this potential extension is pending Spring 2026. **Any extension of the final ruling will not impact Birchtech's business in water treatment.**

Comprehensive Water Treatment Solutions

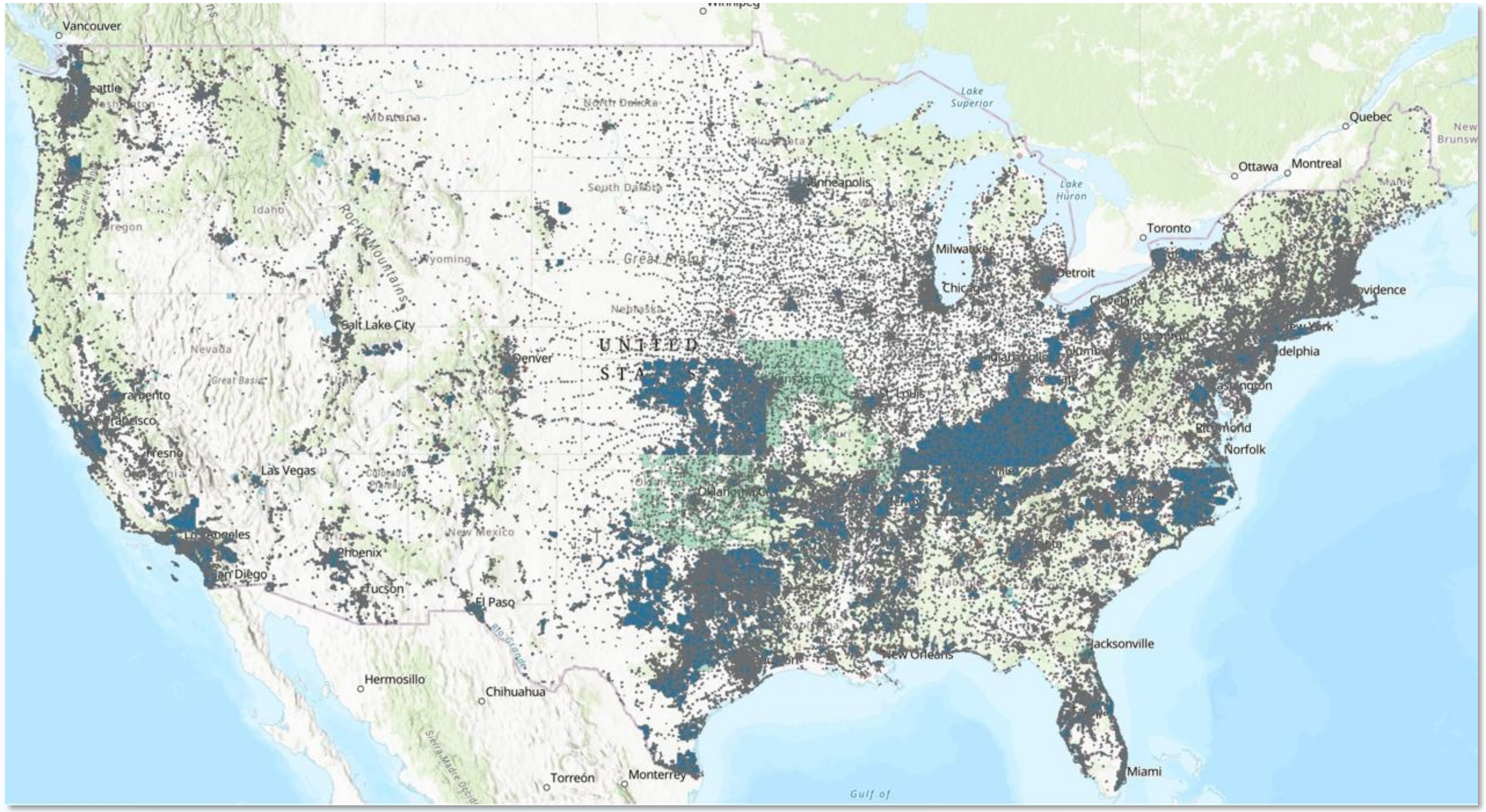
- **Targeting Multiple Markets with Proprietary Solutions:** Municipal & industrial wastewater, as well as Potable Water
- **Regulatory Tailwinds:**
  - Public water systems are required to begin monitoring for PFAS "forever chemicals" by 2027
  - Measures to comply with Min. Contaminant Level by *2029
  - **Expected $1.5B in annual compliance costs**
  - $1B in federal funding allocated for water monitoring systems
- **Robust Gross Margin Profile:** Targeting 50% gross margin profile on Granular Activated Carbon (GAC) sales (both virgin and reactivated)
- **Launch Underway:** Secured an initial GAC feedstock agreement valued at $7M, availability expected 1H 2026

Table 6-1 Example Summary Cost Table for Potential Regulatory MCL of 4 ppt PFOA and PFOS. "American Water Works Association | WITAF 56 Technical Memorandum." National Cost Assessment Methodology, Table 6-1, Page 28.

**See: https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas and https://www.epa.gov/newsreleases/epa-announces-it-will-keep-maximum-contaminant-levels-pfoa-pfos*

Harmful PFAS Contaminants Across the U.S.

Significant Number of Impacted Communities Across the U.S., with ~50,000 Water Utilities At Risk



PFAS Contamination Crisis – PolicyInnovation.org

- The number of U.S. communities confirmed to be contaminated with PFAS continues to grow at an alarming rate – **90% of the US population relies on almost 50,000 community water systems** for their drinking water
- PFAS chemicals don't break down easily & exposure is linked to a range of health concerns, including increased cancer risk, decreased fertility & other harmful conditions
- **Each blue dot in the map represents a utility that requires a unique activated carbon blend for compliant water treatment.** A more robust solution is required for effective change ahead of the EPA regulations going into effect

New Regulations Position Water Treatment Market for Growth

Many municipalities are working to meet EPA regulatory requirements for PFAS removal prior to the deadline

2027

Public water systems are required to begin monitoring for these "forever chemicals" by 2027, with continuous compliance monitoring thereafter

2029

Measures to comply with Maximum Contaminant Level (MCL) limits must be in place by *2029. $1 billion in federal funding has been allocated for water monitoring systems

The volume of drinking water treated with GAC **is expected to increase by 2.5x – 4x** to comply with regulations & GAC “change out” frequency **is expected to increase by 2x – 4x**

The U.S. EPA has mandated that all municipalities complete initial sampling by *2027* and be in compliance with new PFAS limits by *2029*

Anticipated compliance costs associated with new regulations are now expected to exceed $1.5 billion annually. This substantial financial burden is driving an urgent need for innovative solutions

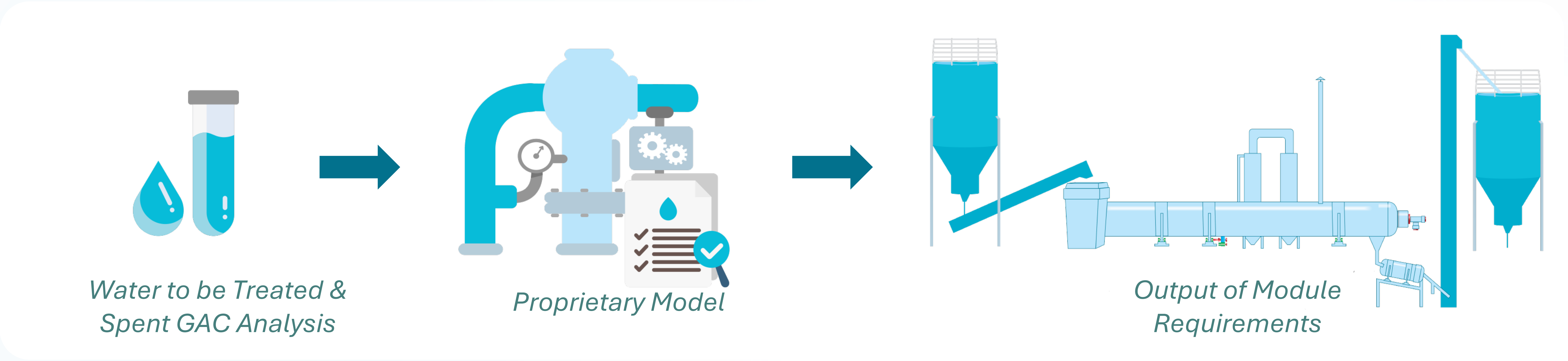
*The **nt**. U.S. EPA’s Administrator, Lee Zeldin, has proposed extending the compliance deadline from 2029 to 2031. The final ruling on this potential extension is pending Spring 2026. **Any extension of the final ruling will not impact Birchtech’s business in water treatment.**

PFAS/PFOS regulations utility costs from Black & Veatch. "American Water Works Association | WITAF 56 Technical Memorandum." National Cost Assessment Methodology, Table 6-1, Page 28.

Design Centers: Bridging Lab Results to Full-Scale

Combining RSSCT & Lab-Scale Reactivation for Real-World Solutions

Prototype to Commercialization Pathway:	**Integration of RSSCT testing** and lab-scale reactivation bridges early research to scalable, field-ready treatment systems
Sizing & Scale Guidance:	**Data-driven insights** help utilities understand **module capacity needs** and optimize system design
Custom Modeling:	Proprietary models link water quality data and spent GAC analysis directly to **module requirement outputs**
Confidence for Utilities:	Ensures utilities move forward with treatment plans that are **cost-effective, right-sized, and compliant** with EPA standards



Reactivation & Expert Analysis

Reactivated carbon expected to outperform virgin carbon providing a competitive edge

We are developing a full-service, novel approach to reach PFAS compliance with expert consultants. Our developing process includes:

- Deploying world-class consulting experience to client municipalities
- Thermal reactivation of carbon in our Design Center in State College, PA
- Obtaining water samples from municipalities to test performance of virgin GAC and reactivated GAC at our Testing Center in Grand Forks, ND
  - → **Rapid Small Scale Column Tests (RSSCT) - delivers cheap, fast & reliable results (compared to full-scale pilot tests)**
- Cohesive look at all data and recommend the optimal solution (mix of virgin & reactivated GAC) to meet compliance requirements

Why Use Reactivated Carbon?

- **Reduces waste** (environmental sustainability)
  - → Spent carbon can be re-used after thermal reactivation
- Lowers need for new carbon purchases (**reduces cost**)
  - → **Virgin GAC pricing has increased 50% over the last 18 months**
  - → Reactivated GAC costs ~50% less than virgin GAC

Through thermal reactivation of spent activated carbon, Birchtech offers a more sustainable and cost-effective solution for water treatment plants

Robust Infrastructure

Synergistic Lab & Plant Network for Developing Water Technologies

Planned Renewable GAC Manufacturing Facility

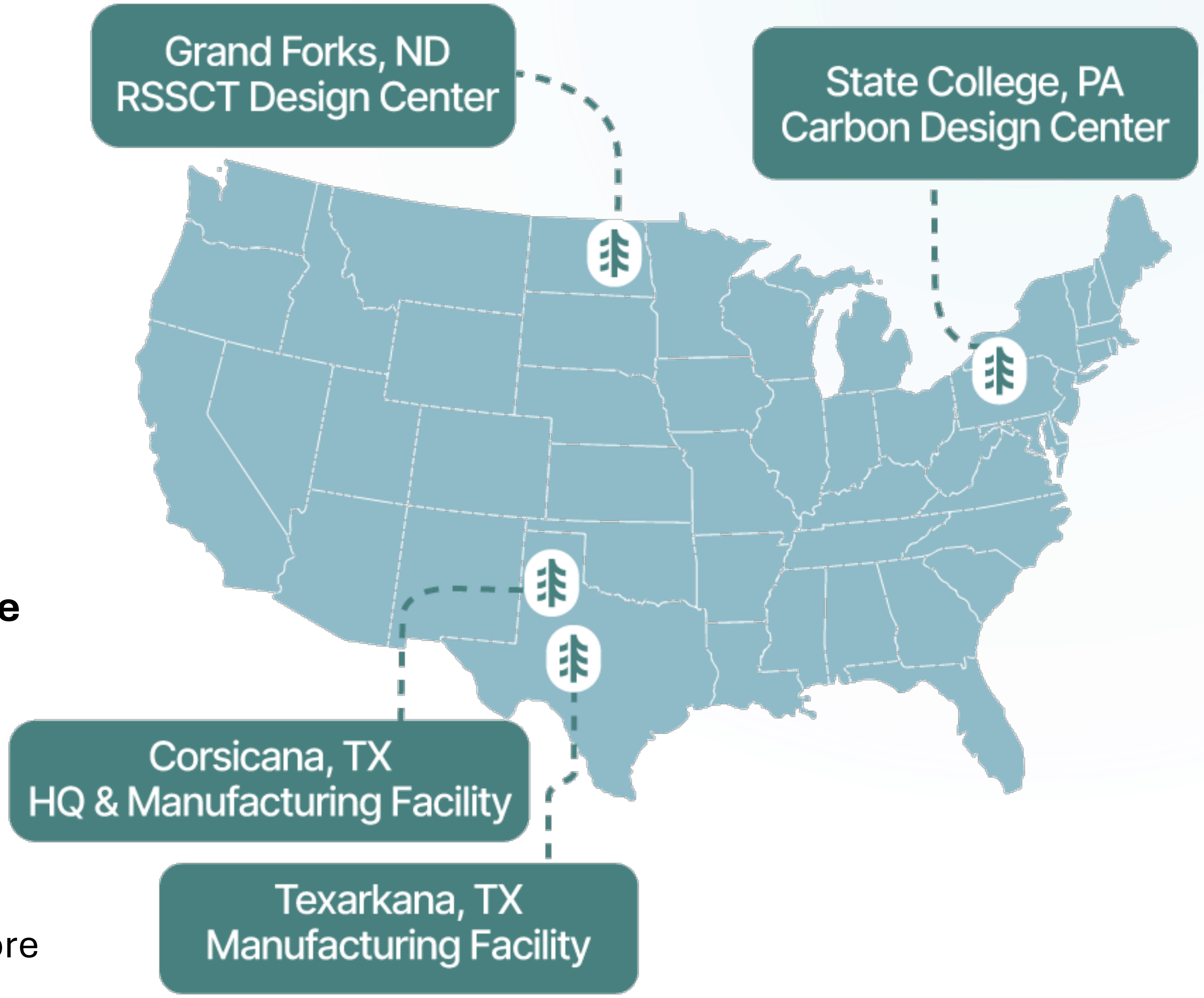
We expect to begin construction of a GAC reactivation facility in 2026

- Targeting $50M revenue capacity, expected to come online in late 2026
- Strategic focus to create JVs with feedstock suppliers and co-locate facilities
- Facility will incorporate advanced manufacturing processes to ensure high efficiency and minimal environmental impact
- Expected to be financed through established, growing air business & debt

Development of Disruptive Technology Underway

Leveraging decades of experience, we are currently developing a disruptive GAC that offers superior benefits, including:

- More environmentally friendly
- Better than virgin GAC on the market today
- Optimized for versatility in various water treatment processes
- Presents opportunities to produce activated carbon more easily with varied pore size distributions
- Minimizes the introduction of unwanted byproducts and toxic elements



Best-in-Class Executive Team

- ✓ 120+ collective patents in Activated Carbon Technologies
- ✓ 20+ years of Government Agency Research
- ✓ 100+ years of Combined Experience in Activated Carbon Technologies

Richard Macpherson
Chief Executive Officer

Company founder who successfully led the early development and commercialization of the firm's SEA® technologies. Over 25+ years in Executive Management roles across Canada and the U.S. for various industries, including communications, industrial production, and internet marketing firms.

John Pavlish
Senior Vice President, Chief Technology Officer

25+ years in mercury emission capture technology wither over 70 patents. Inventor of multiple mercury control technologies with commercial applications. Industry experience - Energy & Environmental Research Center, Director of Center for Air and Toxic Metals, Black & Veatch Unit Leader.

Fiona Fitzmaurice
Chief Financial Officer

Strong financial management with publicly listed companies in the exploration sector, private placements, prospectus, flow- through financing, and corporate audits. Chartered accountant with 15+ years of experience in accounting and financial controls for companies listed on the TSXV and other major entities.

Jim Trettel
Executive Vice President of Operations

Mechanical Engineer and material handling expert. Senior project management background with expertise in coal utilities and supply chain.

Dr. David Mazyck
Executive Director of Innovation & Commercialization

PhD in Activated Carbons, extensive experience in developing highly successful commercialized activated carbon technologies. Instrumental in driving Birchtech's success in the potable water treatment market.

Dr. Nicholas Lentz
Senior Analytics Manager

PhD in PFAS, extensive background in mercury research and testing. Expert in the identification and development of new analytical methods for small-molecule analysis (including PFAS analyses) in a wide range of environmental matrices (air, soil, and water).

Christopher Rinaldi
Director of Strategic Operations

30+ years leading water treatment firms; now advancing Birchtech's commercialization and partnerships in activated carbon solutions.

BOARD OF DIRECTORS

Richard Macpherson
Interim Chairman

David M. Kaye
Director

Troy Grant
Director

Mitzi H. Coogler
Director

Financial Summary

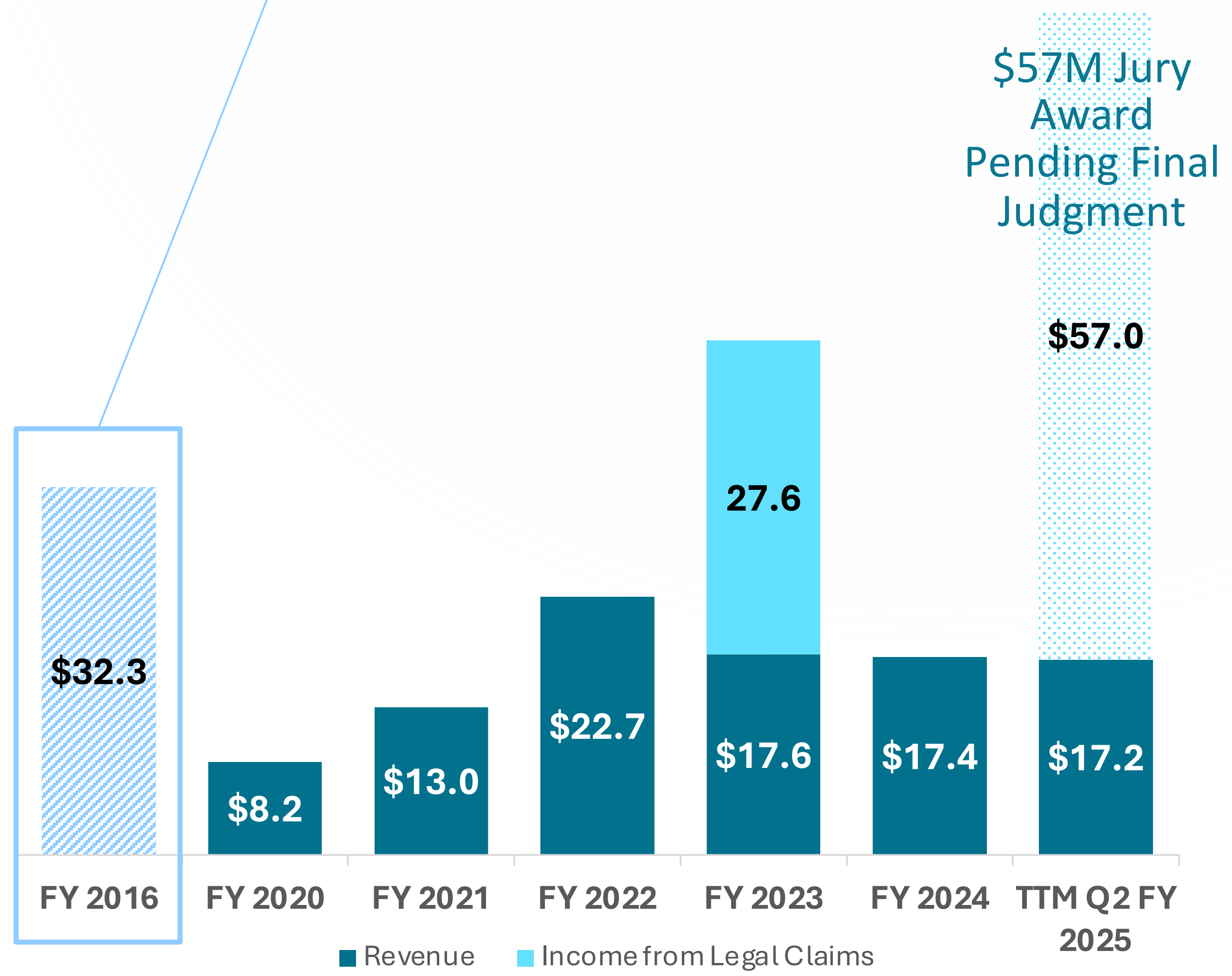
- **Recurring Revenue Base:** Air business provides strong recurring revenue base with +30% gross margins; water business to provide ~50% gross margins
- **Litigation Upside:** $57M jury award & one-time licensing fees from new air business customers expected to provide meaningful cash to the business, which can be used to grow the water business, for share buybacks, and other value-additive strategies
- **Strong Cash Management:** Operating with low burn with significant optionality for near-term cash upside from air business as well as water business launch
- **Debt Repaid:** Repaid $13.1M in debt in 2024, with no debt currently outstanding.

(USD $ in Millions)	Fiscal Q2 2025	Fiscal 2024	Fiscal 2023	Fiscal 2022
Revenue	$3.3	$17.4	$17.6	$22.7
Income from Legal Claims	-	-	$27.6	$0.0
Gross Profit Margin	*29.8%*	*40.8%*	*30.9%*	*26.7%*
Net Income (loss)	($1.5)	($10.8)	$5.7	($0.5)
(USD $ in Millions)	**Jun. 30, 2025**	**Dec. 31, 2024**	**Dec. 31, 2023**	**Dec. 31, 2022**
Cash & Cash Equivalents	$1.5	$3.5	$20.9	$1.5
Debt (Net of discount & Issuance costs)	$0.0	$0.0	$11.2	$9.9

**For the Q2 period ending Jun 30, 2025*

Strong topline performance growing at 50% YoY via recurring revenue streams

Core business represented $30M+ in topline sales prior to IP infringement



Revenue & Income from Legal Claims
($Millions)

Upcoming Catalysts: Late 2025-2026

Strategic Growth, Settlements with Infringing Parties & Entrance Into $1.5B Water Market

Following jury award of $57 Million in March 2024, **final judgment from the U.S. Federal Court of Delaware expected in 2025**

Additional water business sales expected during next few months following initial commercial sales ($.9M) in water treatment solutions announced in early Q3-2025

Targeting an uplisting to major U.S. exchange, expected Q4 2025

Increased revenues through additional settlements with infringing utilities in the form of licensing payments & new supply contracts

Begin construction of a GAC reactivation facility, permitting underway

Key Takeaways

The Right Team, Disruptive Technologies, Recognized IP and Regulatory Tailwinds

Our Team

- We have world class experts in activated carbon, allowing us to create **customized and effective environmental technologies** for air & water

Regulatory Tailwinds

- $1 billion in federal funding has been allocated for water monitoring systems
- EPA regulations for U.S. water utilities to capture PFAS beginning in 2027, over 50% of U.S. states have imposed own PFAS regulations

Large, Addressable Markets

- **Stable, Profitable Air Business** – Revenue ramp underway, $40M+ revenue opportunity
- **Massive, Underserved Water Business** – Custom solutions for municipalities to treat water economically & introducing disruptive new GAC technologies in $1.5B U.S. water treatment market

Strong IP Portfolio & Successful Enforcement Strategy

- $57M awarded by jury (final judgment expected in 2025)
- $35M in funds received to date from IP efforts (license agreements & settlements)

Move into Water Business Underway

- GAC supply agreement valued at up to $7M in revenue, additional water treatment sales over next few months
- Buildout of GAC facility commencing in 2025

Leading Technologies for Cleaner Air & Water

Corporate Office

Manufacturing & Production Distribution Center
1810 Jester Drive, Corsicana, TX 75109

Main: 614-505-6115

www.birchtech.com

Investor Relations

Lucas A. Zimmerman
MZ North America
Main: +1 (949) 259-4987
BCHT@mzgroup.us