

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

BIRCHTECH CORP.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

2819
(Primary Standard Industrial Classification Code Number)

87-0398271
(I.R.S. Employer Identification No.)

**1810 Jester Drive
Corsicana, Texas 75109
(614) 505-6115**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Richard MacPherson
President, Chief Executive Officer and Secretary
1810 Jester Drive
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(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: **As soon as practicable after the effective date of this registration statement.**

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION

DATED October 23, 2025

BIRCHTECH CORP.



**Shares
Common Stock**

Birchtech Corp. (the "Company", "we", "us" or "our") is offering **shares** of our common stock, par value \$0.001 per share (the "common stock").

Our common stock is presently traded on the Toronto Stock Exchange ("TSX") under the symbol "BCHT", and is quoted on the OTCQB market tier operated by OTC Markets Group Inc. ("OTCQB") under the symbol "BCHT". On **, 2025**, the last reported sale price of our common stock on the OTCQB was \$ **per share**, as adjusted for a reverse stock split of our common stock at a 1-for- **ratio**, which was effected on **, 2025**. We have assumed a public offering price per share of \$ **, based on the last reported sale price of our common stock on the OTCQB on **, 2025**, as adjusted for a reverse stock split of our common stock at a 1-for- **ratio**. The final public offering price of the shares of common stock in this offering will be determined through negotiation between us and the underwriters in the offering and the recent market price of our common stock used throughout this prospectus may not be indicative of the final public offering price. Once determined, the final public offering price will be fixed for the duration of this offering. All information presented in this prospectus other than in our financial statements and the notes thereto assume a 1-for- **reverse stock split of our outstanding shares of common stock, and unless otherwise indicated, all such amounts and corresponding conversion price or exercise price data set forth in this prospectus have been adjusted to give effect to such assumed reverse stock split.****

In connection with this offering, we will apply to list our common stock on the New York Stock Exchange American Exchange ("NYSE American") under the proposed symbol "BCHT". Accordingly, we intend for our common stock to begin trading on NYSE American on or around the date of this prospectus, at which point our common stock will cease to be traded on the OTCQB and TSX. No assurance can be given that our application will be approved or, if we receive approval, that a trading market will develop or, if developed, that it will be sustained or that the trading prices of our common stock on the OTCQB and TSX will be indicative of the prices of our common stock if traded on NYSE American. We cannot assure you that our common stock will become eligible for trading on NYSE American or on any other exchange or market.

We are a "smaller reporting company" as such term is defined under federal securities laws, and, as such, have elected to take advantage of certain reduced public company reporting requirements.

Investing in our common stock involves a high degree of risk. Before buying any shares, you should carefully read the discussion of the material risks of investing in our common stock that are described in "Risk Factors" beginning on page 11 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	\$ 	\$
Underwriting discounts and commissions (1)	\$ 	\$
Proceeds, before expenses, to us	\$ 	\$

(1) See "Underwriting" beginning on page 83 of this prospectus for additional information regarding the compensation payable to the underwriters.

We have granted a **-day** option to the underwriters to purchase up to **additional shares of common stock solely to cover over-allotments, if any. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be \$ **, and the total proceeds to us, before expenses, will be \$ **. Delivery of the shares of common stock is expected to be made on or about **, 2025.********

Lake Street

Janney Montgomery Scott

The date of this prospectus is **, 2025.**

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ABOUT THIS PROSPECTUS

Neither we nor the underwriters have authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any amendment or supplement to this prospectus, and you should rely only on the information contained in this prospectus. We and the underwriters take no responsibility for, and can provide no assurances as to the reliability of, any information that others may give you. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is only accurate as of its date, regardless of its time of delivery or the time of any sale of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

We own or have rights to various trademarks, service marks, and trade names that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks, and trade names of third parties, which are the property of their respective owners. Our use or display of third parties' trademarks, service marks, and trade names or products in this prospectus is not intended to, and does not, imply a relationship with, or endorsement or sponsorship by, us. Solely for convenience, the trademarks, service marks, and trade names referred to in this prospectus may appear without the ®, TM, or SM symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks, and trade names.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering, or the possession or distribution of this prospectus, in any jurisdiction where action is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

Numerical figures included in this prospectus have been subject to rounding adjustments. Accordingly, numerical figures shown as totals in various tables may not be arithmetic aggregations of the figures that precede them.

The market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe these industry publications and third-party research, surveys, and studies are reliable. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled "Risk Factors" and elsewhere in this prospectus. Some data is also based on our good faith estimates. Accordingly, investors should not place undue reliance on this information.

As used in this prospectus, unless the context otherwise requires, references to:

- "BAC" means brominated powdered activated carbon.
- "Birchtech Corp.," the "Company," "we," "us," and "our" means Birchtech Corp. and its consolidated subsidiaries, or any or all of them, as the context may require.
- "EGUs" means electric generating units.
- "EPA" means the U.S. Environmental Protection Agency.
- "ESP" means electro-static precipitators.

- “GAC” means granular activated carbon.
- “HFPO-DA” means hexafluoropropylene oxide dimer acid, which is a specific type of chemical within the PFAS group.
- “Hg” means mercury.
- “MATS” means Mercury and Air Toxics Standards established by the EPA to limit hazardous air pollutants emitted by coal- and oil-fired power plants.
- “MCLs” means maximum contaminant levels.
- “MW” means megawatts.
- “NOX” means oxides of nitrogen.
- “PAC” means powdered activated carbon.
- “PFAS” means per-and polyfluoroalkyl substances, which are a group of synthetic chemicals also known as “forever chemicals”.
- “PFHxS” means perfluorohexane sulfonic acid, which is a specific type of chemical within the PFAS group.
- “PFNA” means perfluorononanoic acid, which is a specific type of chemical within the PFAS group.
- “PFOA” means perfluorooctanoic acid, which is a specific type of chemical within the PFAS group.
- “PFOS” means perfluorooctane sulfonate, which is a specific type of chemical within the PFAS group.
- “RSSCTs” means rapid small-scale column tests.
- “SCR” means selective catalytic reduction.
- “SDWA” means the U.S. Safe Drinking Water Act enacted in 1974 to protect public drinking water supplies throughout the United States.
- “SEA®” means the Company’s proprietary sorbent enhancing additive.
- “SOX” means oxides of sulfur.

PROSPECTUS SUMMARY

This summary highlights selected information contained in greater detail elsewhere in this prospectus. Because it is a summary, it does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this prospectus in its entirety, including the sections entitled “Risk Factors,” “Special Note Regarding Forward Looking Statements,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and related notes to those financial statements in each case included elsewhere in this prospectus.

Our Company

Overview

We are a provider of specialty activated carbon technologies, delivering innovative solutions for air and water purification. We provide patented and proprietary technologies for mercury emissions capture to the coal-fired utility sector, and are developing disruptive water purification technologies with a specialization on forever chemicals such as PFAS and PFOS.

Products and Services

Mercury Emissions

We provide mercury capture solutions for coal-fired power plants driven by our patented two-part SEA® process using a powerful combination of science and engineering. Our leading-edge services have been shown to achieve mercury emissions removal at a significantly lower cost and with less operational impact to coal-fired power plants than other used methods, while maintaining and/or increasing power plant output and preserving the marketability of byproducts for beneficial use. We design systems and materials tailored and formulated specifically to each customer’s coal-fired units. North America is currently the largest market for our emissions technologies. The market for mercury removal from power plant emissions in the United States have largely been driven by federal regulations. The MATS rule, proposed by the EPA in May 2011 and which became effective in April 2012, is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Our mercury removal technologies and systems achieve mercury removal levels which meet or exceed the MATS requirements with lower cost and plant systems impacts than typical PAC or BAC sorbent injection systems. Our products have been shown to be successful across a myriad of fuel and system types, tunable to any configuration, and environmentally friendly, allowing for the recycling of fly ash for beneficial use.

Our SEA® technology provides total mercury control with solutions that are based on a thorough scientific understanding of actual and probable interactions involved in mercury capture in coal-fired flue gas. A complete understanding of the complexity of mercury-sorbent-flue gas interactions and chemisorption mechanisms allows for optimal control strategy and product formulation, resulting in effective mercury capture. Combined with a thorough proprietary audit of the plant and its configuration and instrumentation, we believe our complete science and engineering approach for mercury-sorbent-flue gas interactions are well-understood, highly predictive, and critical to delivering total mercury control.

We believe that a significant percentage of coal-fired power plants in the United States have adopted and are infringing upon our two-part SEA® process for mercury removal from coal-fired power plants.

Beginning in 2019, we began to actively enforce our patent rights against unauthorized use of our patented technologies, and have since initiated patent litigation in various jurisdictions against multiple infringers, claiming infringement of our patents related to our two-part process for mercury removal from coal-fired power plants. We view such litigation as a last resort. Our goal and overall strategy is to convert infringers to our supply chain of sorbent products for mercury removal, or otherwise license our patents to them on a non-exclusive basis in connection with their respective coal-fired power plants.

Water Treatment

In April 2024, the EPA under the Biden Administration issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as “forever chemicals”. The Rule established legally enforceable MCLs for six PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs, and PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. Under the Rule, public water systems must monitor these PFAS and must complete initial monitoring by 2027, followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.

In April 2024, we announced the introduction of our new water treatment business to address the growing potable (drinking) water market with next-generation sorbent technologies. These new solutions are being designed to use significantly less activated carbon, offering a more environmentally sustainable approach to water treatment while maintaining or improving contaminant removal performance. Our products target not only compliance with emerging PFAS regulations, but also broader opportunities in water quality improvement positioning us to serve a large and expanding market.

As part of this strategic pivot, we have invested in the commissioning of two state-of-the-art laboratory facilities—one in Pennsylvania and one in North Dakota—referred to as our “Design Centers.” The Design Centers are dedicated sites for water treatment innovation and development. Together, we believe these facilities represent the only known facilities that have integrated capability in North America to thermally reactivate spent GAC under controlled conditions and subsequently conduct RSSCTs to directly compare reactivated GAC performance against virgin carbon counterpart. This combination allows us to evaluate reactivated GAC as a sustainable and cost-effective alternative to virgin carbon and address key water utility questions including how to optimize media changeout schedules, strategies to reduce operational costs, and provide lab-based validation of treatment performance for PFAS and other contaminants.

These Design Centers will also function as a direct resource for the water treatment industry, offering thermal reactivation, contaminant analysis, and carbon performance evaluations. By enabling municipal and industrial utilities to lower compliance costs and improve operational efficiency, we expect to build strong technical credibility and customer engagement ahead of large-scale market adoption. Importantly, we believe our technology platform is not solely dependent on PFAS regulations as market demand for improved water treatment solutions is broad.

Our investment in our Design Centers also serves as the basis for our planned commercial thermal reactivation plants which we intend to open and operate in the future. Data generated from the Design Centers is being used to define permitting requirements, capital expenditure parameters, and projected operating costs accelerating the commercialization timeline while avoiding costly future reliance on third-party providers.

On May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS. As part of this action, the EPA also announced its intent to extend the PFOA and PFOS MCL compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA (commonly known as GenX), and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

In light of evolving water regulations and funding dynamics, we believe the Company is well positioned to capture a meaningful share in the rapidly growing water treatment sector.

Marketing and Our Growth Strategy

Mercury Emissions

Our marketing efforts have principally focused on the North American market to date, and particularly the United States.

In the U.S. market, our success depends, in part, on the success of demonstrations performed with utility customers and the resulting contract awards to meet the MATS requirements in the long-term period and its operational performance with EGUs under contract.

In Canada, there are the 2000 Canada-wide Standards for Mercury Emissions and the 2006 Canada-wide Standards for Mercury Emissions from Coal-Fired Electric Power Generation Plants among all the provinces which was initially implemented in 2010, with caps in mercury emissions for each of the provinces. We believe that we have the most effective technology for the EGUs and that we maintain a strong patent position for our mercury emissions technologies in Canada.

Our marketing strategy is designed to grow our mercury capture solutions in the North American region by building and maintaining the reputation and trust of our work among its customers – specifically by carrying out successful demonstrations performed with utility customers and the resulting contract awards to meet the MATS requirements in the long-term period and sustaining our operational performance with EGUs under contract – and developing new, and refining our existing, unique emissions technologies. We believe that by offering proven and innovative service offerings, we can attract more customers and partners to our services, creating a network growth effect. We expect that the continuing pursuit of infringers of our patented technologies will yield further licensing and supply agreements.

We believe that these targeted marketing initiatives are the most efficient and cost-effective strategy to sustain the growth of both new and existing customers.

As of June 30, 2025, there were 16 EGUs in the U.S. that use our SEA® technologies and buy product from us.

Other Possible Markets for Our Emissions Technologies

In May 2017, the European Union and seven of its member states ratified the Minamata Convention on Mercury. The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. This Convention was a result of three years of meeting and negotiating, after which the text of the Convention was approved by delegates representing approximately 140 countries in January 2013 in Geneva. As of October 20, 2025, 153 countries have joined the Convention. It is expected that over the next few decades, this international agreement will enhance the reduction of mercury pollution from the targeted activities responsible for the major release of mercury to the environment. Specific emissions limits are being developed by the European Union, although the timing of any enactment of such is uncertain. Any such regulations may lead to additional business opportunities for our mercury control technologies within the European Union although there are no such prospects at the present time.

With regard to business opportunities in China and other Asian countries, there currently exists no specific mandate for mercury capture that requires specific control technology. Nevertheless, we are optimistic of the prospects for mercury emissions regulations in China and Southeast Asia in the coming years.

Water Treatment

Initially, we intend to focus our marketing efforts on municipalities that have limited resources and engineering experience and offer shaped activated carbons (including reactivated GAC), testing and consulting services.

While the initial focus for our water treatment technologies will be on the potable water market, we expect that our technologies will also be valuable for industrial wastewater treatment. Industrial wastewater is the liquid waste generated by industrial activities, including manufacturing, processing, and production facilities. It often contains pollutants such as organic matter, heavy metals, chemicals, oils, and other contaminants that must be treated before being discharged into the environment or reused. We believe our water treatment technologies will be well suited to address industrial wastewater challenges, providing contaminant removal and offering a practical pathway to manage treatment costs.

Additional Business Opportunities

We also maintain a license with respect to certain intellectual property owned by Dakin Holdings Ltd. consisting of a proprietary compound of materials engineered to treat a boiler to improve the combustion process and thereby reduce overall emissions, while improving boiler efficiency during the combustion of all types of fuels at power plants (the “Dakin IP”). We believe the Dakin IP can be an effective supplement to our mercury emissions removal business at coal-fired power plants and provide an additional revenue stream utilizing our present infrastructure. However, there can be no assurance that such license will lead to any significant revenues. For additional information, see the section entitled “Certain Relationships and Related Party Transactions”.

Industry Background and Governmental Regulations

The market for mercury removal from power plant emissions in the United States have largely been driven by federal regulations.

On December 21, 2011, the EPA announced MATS for power plants in the U.S. The MATS rule is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Existing power plants were granted three years (plus a potential one-year extension in cases of hardship, ruled on by state EPAs where the plant is domiciled) from April 16, 2012 to comply with the new emission limits. The MATS rule applies to EGUs that are larger than 25 MW that burn coal or oil for the purpose of generating electricity for sale and distribution through the national electric grid to the public, and includes investor-owned units, as well as units owned by the federal government, municipalities, and cooperatives that provide electricity for commercial, industrial, and residential uses. At the time of MATS being promulgated, there were approximately 1,250 coal-fired EGUs affected by this rule. Many EGUs have since shut down as a result of regulation and competitive disadvantages to newer or gas-fired EGUs and renewable energy sources (e.g. wind, solar). We believe that at June 30, 2025, there were approximately 400 coal-fired EGUs remaining in the power market which make up the large mercury-emissions control market into which we sell.

The final MATS rule identifies two subcategories of coal-fired EGUs, four subcategories of oil-fired EGUs, and a subcategory for units that combust gasified coal or solid oil (integrated gasification combine cycle or “IGCC” units) based on the design, utilization, and/or location of the various types of boilers at different power stations. The rule includes emission standards and/or other requirements for each subcategory. The rule set nationwide emission limits estimated to reduce mercury emissions in coal-fired plants by about 90%.

In April 2023, the EPA issued a proposal to strengthen and update MATS. Such proposal was finalized and published in May 2024 with an effective date of July 8, 2024 which, among other things, strengthens and updates MATS for coal-fired power plants and tightens the emission standard for mercury for existing lignite-fired power plants to a level that is aligned with the mercury standard that other coal-fired power plants have been achieving under MATS.

On March 12, 2025, the newly appointed EPA administrator under the Trump Administration announced plans to roll back dozens of environmental regulations including the reconsideration of the MATS regulation. On April 8, 2025, President Trump signed a Proclamation exempting certain stationary sources, identified in Annex 1 of the Proclamation, from compliance with the 2024 updated MATS Rule. As set out in the Proclamation, the President’s exemption lasts for a period of two years beyond the updated Rule’s compliance date -- i.e., for the period beginning July 8, 2027, and concluding July 8, 2029. During the two-year period these stationary sources identified in Annex 1 are subject to the compliance obligations that they are currently subject to under MATS as the MATS Rule existed prior to the 2024 update. Annex 1 identifies 47 plant owners and over 60 power plants provided such exemption, which list includes a number of our customers.

In June 2025, the EPA proposed to repeal certain amendments finalized in 2024 to the MATS Rule and return compliance obligations to the MATS standards which existed prior to the 2024 update. The EPA intends to finalize action on this proposal by December 2025.

In addition to the U.S. federal MATS rule, more than 20 states currently have regulations that limit mercury emissions and are similar to or more restrictive than the MATS rule.

There are several choices of pollution control technologies available to reduce mercury emissions, but they do not all work consistently or cost-effectively for every plant design or for all of the various types of coal. The most common technology employed to reduce mercury emissions is a sorbent injection system which provides for the injection of PAC or BAC into the flue-gas of an EGU after the boiler itself but in front of the ESP. Such injections have proven effective with many coals, especially at reduction levels of 70% or less. At required mercury reduction levels above 80%, these injection systems require substantial injection rates which often have severe operational issues including over-loading the ESP and rendering the fly ash unfit for sale to concrete companies, and at times even causing combustion concerns with the fly ash itself.

Mercury is also removed as a co-benefit by special pollution control equipment installed to remove SOX and NOX. To achieve very high levels of SOX reduction, large, complex, and expensive (with capital costs in the hundreds of millions of dollars for a medium-sized EGU) systems called scrubbers can be installed in the plant exhaust system, typically just before the flue-gas goes up the stack for release. As a co-benefit to their primary mission, scrubbers have been shown to remove significant quantities of oxidized mercury. Mercury is typically found in two basic forms in coal: elemental and oxidized. The amount of each form varies in any given seam of coal and is affected by the other natural elements (such as chlorine) which might also be present in the coal. We believe that about 30-40% of the mercury in the post-combustion flue-gas exists in the oxidized state for power plants burning low-rank coal and about 60-70% for power plants burning high-rank coals. Mercury is found in only trace amounts in coal making it difficult to remove from coal or from the flue-gas when combusted with the coal. It is in the burning of millions of tons of coal that these trace amounts become problematic and is why MATS was promulgated.

The other major pollution control system which contributes significantly to the co-benefits of mercury removal is an SCR system which can be installed to achieve high levels of removal of NOX. SCRs are also very large and expensive systems (costing hundreds of millions of dollars in capital costs to install on a medium-size EGU) that are typically installed just after the flue-gas exits from the unit boiler. As a co-benefit, SCRs have been shown to oxidize a considerable percentage of the elemental mercury in many types of coal. If the EGU then has a combination of an SCR and a scrubber, we estimate that the EGU might achieve an over-all reduction of 80-85% of the mercury in power plants that burn high-rank coals. The exact level of mercury emission reductions depends on the designs of these systems, the types of coal being burned and the operations of the power plant.

We believe that a large percentage of the coal-fired EGUs in the U.S. employ some sort of sorbent injection system to achieve the very low mercury emission levels required by the MATS rule, with either the sorbent injection system as the primary removal method or such a system being employed as a supplemental system to SCR/scrubber combinations to achieve the emission limits.

In the United States, potable water treatment is regulated primarily by the EPA under the SDWA. The SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs, and ground water wells. (The SDWA does not regulate private wells which serve fewer than 25 individuals.) The SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The SDWA covers water quality standards, treatment processes, and monitoring requirements for public water systems.

The EPA has set MCLs for specific contaminants in drinking water. These include: microbial contaminants like bacteria, viruses, and protozoa (e.g., E. coli, cryptosporidium); inorganic contaminants like lead, arsenic, and nitrates; organic contaminants like pesticides and solvents; radionuclides like radon and uranium; and, disinfectants and disinfection by-products like chlorine and trihalomethanes (THMs). Water systems must treat water to meet these MCLs or achieve a level that minimizes the risk to public health.

In April 2024, the EPA issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as “forever chemicals”. The Rule sets limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as GenX). The Rule also sets a hazard index level for two or more of four PFAS as a mixture: PFNA, PFHxS, HFPO-DA, and PFBS. Under the Rule, public water systems must monitor these PFAS and must complete initial monitoring by 2027, followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027. Public water systems must implement solutions that reduce these PFAS by 2029 if monitoring shows that drinking water levels exceed the MCLs set forth in the Rule. By 2029, public water systems that have PFAS in drinking water which violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.

The EPA has indicated that once implemented, these limits will reduce tens of thousands of PFAS-attributable illnesses or deaths and will reduce PFAS exposure for approximately 100 million Americans served by public drinking water systems.

The EPA has indicated that compliance with this Rule is estimated to cost approximately \$1.5 billion annually. The Infrastructure Investment and Jobs Act has dedicated \$9 billion to help communities impacted by PFAS pollution in drinking water. In addition, another \$12 billion in Infrastructure Investment and Jobs Act funding is available to communities to make general drinking water improvements, including addressing PFAS chemicals. Estimated costs include water system monitoring, communicating with customers, and – if necessary – installing treatment technologies.

On May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS. As part of this action, EPA also announced its intent to extend the PFOA and PFOS MCL compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA (commonly known as GenX), and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

In addition to the national standards established by the EPA which states are required to implement and enforce, individual states have the authority to impose stricter regulations than those set by the EPA. Many states have already set their own standards for PFAS, often more stringent than federal standards, in response to the growing public health concerns. States also run their own monitoring programs and inspections to ensure compliance with federal and state regulations.

Risks Factor Summary

An investment in our common stock involves a high degree of risk. You should carefully consider the risks summarized below. These risks, and other risks, are discussed more fully in the section entitled “Risk Factors” following this prospectus summary. These risks include, but are not limited to, the following:

Risks Related to our Company

- Demand for our mercury emissions services and products is largely driven by coal consumption by North American electricity power generating plants. Any significant changes that diminish the use of coal as a primary fuel source for electricity production may adversely affect our business;
- Technological change may make our products and services less marketable;
- Our industry is highly competitive. If we are unable to compete effectively with competitors having greater resources than we do, our financial results could be adversely affected;

- We may not be able to successfully protect our intellectual property rights, and we may not be successful in patent litigation, which could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing;
- We are currently subject to inter partes review proceedings that could adversely affect the enforceability of our patent rights.
- We depend on third-party suppliers for materials needed to implement our emissions technologies, key customers, and a small number of key employees—the losses of which could negatively impact our business, our financial results, our operations, and our projected future growth;
- Our lack of diversification increases the risk of an investment in the Company;
- Low gas prices can negatively impact our results of operations; mild weather could also have corresponding effects on the demand for coal;
- Our insurance coverage may not be adequate to protect us from all business risks;
- Revenues are generated under contracts or blanket purchase orders that must be renegotiated periodically;

Risks Related to Regulation

- Any significant changes in environmental regulations related to mercury emissions and potable water treatment could have a major impact on us;
- Since being enacted, the MATS Rule has been subject to legal challenges and modifications which may continue;
- Uncertainty of and variability in international environmental regulations could restrict our ability to expand outside of the United States;

Risks Related to our Common Stock and this Offering

- The trading activity for our common stock has varied and, at times, been limited;
- Our stock price may be volatile, which could result in substantial losses to investors and litigation;
- We may need additional capital in the future, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions;
- If we fail to list our common stock on NYSE American and it continues to be characterized as a “penny stock” under the U.S. Securities and Exchange Commission rules, it may be more difficult to resell securities classified as “penny stock”;
- Investors in this offering will experience immediate and substantial dilution in net tangible book value;
- If we cannot satisfy the initial listing standards, or continue to satisfy the continued listing standards, of NYSE American, our securities may not be listed or may be delisted, which could negatively impact the price of our securities and your ability to sell them;
- Even if we effect the reverse stock split of our common stock, we cannot assure you that the market price of our common stock will remain high enough for such reverse stock split to have the intended effect of complying with NYSE American’s minimum price requirement;
- We have broad discretion in the use of the net proceeds from this offering and may not use them effectively;

- If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline;
- The proposed reverse stock split could cause our stock price to decline relative to its value before the split and decrease the liquidity of shares of our common stock; and
- the other factors described in the section entitled “Risk Factors.”

Reverse Stock Split

Our Board of Directors and stockholders have approved a reverse split of our outstanding shares of common stock at a specific whole number ratio within a range from 1-for-2 to 1-for-5, and the stockholders also granted authorization to our Board of Directors to determine, in its sole discretion, the specific ratio and timing of such reverse stock split. We intend to effect such reverse stock split only to the extent necessary to effectuate our intended listing of our common stock on NYSE American or remain in compliance with continued listing requirements of NYSE American, however we cannot guarantee that that such reverse stock split will be necessary or will occur in connection with the listing of our common stock on NYSE American, or that NYSE American will approve our common stock for listing on NYSE American upon such reverse stock split.

Corporate Information

We were originally incorporated on July 19, 1983 in the State of Utah and subsequently domesticated as a Delaware corporation in February 2007. Effective on October 17, 2024, as part of our rebranding, we changed our corporate name from Midwest Energy Emissions Corp. to Birchtech Corp.

Our wholly owned subsidiary, MES, Inc., was originally incorporated in December 2008 in the State of North Dakota. Effective on June 21, 2011, we completed a merger transaction (the “Merger”) whereby MES, Inc. (then called Midwest Energy Emissions Corp.) became our wholly owned subsidiary. As a result of the Merger, our business began to focus on the delivery of mercury capture technologies to power plants.

Our mercury emissions business is sometimes referred to and known as “ME₂C”® which is a trademark of the Company.

Our principal place of business is located at 1810 Jester Drive, Corsicana, Texas 75109, which location we have maintained for manufacturing and distribution of our products since 2015. Our telephone number is (614) 505-6115. Our corporate website address is <http://www.birchtech.com>.

We do not incorporate the information on or accessible through our website to be part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Implications of Being a Smaller Reporting Company

We are a “smaller reporting company” as defined in the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that the aggregate market price of our voting and non-voting common stock held by non-affiliates is more than \$250 million measured on the last business day of our second fiscal quarter, or our annual revenues are less than \$100 million during the most recently completed fiscal year and the aggregate market value of our voting and non-voting common stock held by non-affiliates is more than \$700 million measured on the last business day of our second fiscal quarter.

THE OFFERING

Common stock offered by us:	shares (or shares if the underwriters exercise the option to purchase additional shares in full), as adjusted for a reverse stock split of our common stock at a 1-for- ratio.
Common stock outstanding immediately prior to this offering:	shares, as adjusted for a reverse stock split of our common stock at a 1-for- ratio.
Common stock to be outstanding immediately following this offering:	shares (or shares if the underwriters exercise the option to purchase additional shares in full), as adjusted for a reverse stock split of our common stock at a 1-for- ratio.
Underwriters' option to purchase additional shares from us:	We have granted the underwriters a -day option to purchase up to an aggregate of additional shares of common stock from us at the public offering price, less underwriting discounts and commissions, on the same terms as set forth in this prospectus.
Use of proceeds:	We estimate that we will receive net proceeds from this offering of approximately \$ million, or approximately \$ million if the underwriters exercise their option to purchase additional shares in full, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from this offering, together with our existing cash, for, among other things, continuing operating expenses, working capital and other general corporate purposes. See "Use of Proceeds" below.
Dividend policy:	We have never declared or paid any cash dividends on our common stock, and we do not currently intend to pay dividends on our common stock.
Proposed listing	Our common stock is presently traded on the TSX under the symbol "BCHT", and is quoted on the OTCQB under the symbol "BCHT". We will apply to have our common stock listed on NYSE American under the proposed symbol "BCHT". No assurance can be given that such listing will be approved or that a trading market will develop for our common stock.
Risk factors:	An investment in our common stock involves a high degree of risk. You should read this prospectus carefully, including the section entitled "Risk Factors" and the consolidated financial statements and the related notes to those statements included in this prospectus, before investing in our common stock.
Transfer agent	The transfer agent and registrar for our common stock is Transfer Online, Inc., 512 SE Salmon Street, Portland, Oregon 97214. The co-transfer agent and registrar for our common stock in Canada is TSX Trust Company at its offices in Toronto, Ontario, Canada.
Lock-ups	We and our directors, officers and principal stockholders have agreed with the underwriters not to offer for sale, issue, sell, contract to sell, pledge or otherwise dispose of any of our common stock or securities convertible into common stock for a period of days after the date of this prospectus. See "Underwriting" section on page 83.

After giving effect to the planned reverse stock split of our common stock at a ratio of 1-for- , the number of shares of common stock outstanding prior to and following this offering is based on shares of common stock outstanding at , 2025, and excludes the following:

- shares of common stock issuable upon exercise of our outstanding stock options at a weighted average exercise price of \$ per share; and
- shares of common stock reserved for issuance pursuant to the 2017 Equity Incentive Plan.

Unless otherwise indicated, all information in this prospectus reflects or assumes no exercise by the underwriters of their option to purchase up to additional shares of common stock in this offering.

RISK FACTORS

An investment in our common stock is speculative and involves a high degree of risk including the risk of a loss of your entire investment. You should carefully consider the following risk factors. These risk factors contain, in addition to historical information, forward-looking statements that involve risks and uncertainties. Our actual results could differ significantly from the results discussed in the forward-looking statements. The occurrence of any of the adverse developments described in the following risk factors and in the documents incorporated herein by reference could materially and adversely harm our business, financial condition, results of operations, or prospects. In such event, the value of our common stock could decline, and you could lose all or a substantial portion of the money that you pay for our common stock. In addition, the risks and uncertainties discussed below are not the only ones we face. Our business, financial condition, results of operations, or prospects could also be harmed by risks and uncertainties not currently known to us or that we currently do not believe are material, and these risks and uncertainties could result in a complete loss of your investment. In assessing the risks and uncertainties described below, you should also refer to the other information contained in this prospectus (as supplemented or amended).

Risks Related to Our Company

Demand for our mercury emissions services and products is largely driven by coal consumption by North American electricity power generating plants. Any significant changes that diminish the use of coal as a primary fuel source for electricity production may adversely affect our business.

North American coal-fired electricity generating units comprise the basis of the market for our services and products. Regulations mandating or incentivizing the purchase of power from renewable energy sources (e.g., wind, solar, hydroelectric, geothermal) and/or the phasing out of coal-fired power plants could lessen the demand for electricity from such plants and overall reduce the number of coal-fired electricity generating units and the amount of coal burned, thereby decreasing the demand for our services and products which could adversely affect our business. The phasing out of coal-fired plants has already had a negative effect on our results of operations. Continued promulgation of these regulations in North America is affected by, among other things, politics, perceived environmental impact, and public favor.

The risks associated with technological change may make our products and services less marketable.

The market into which we sell our products and services is characterized by periodic technological change as well as evolving industry standards and regulations. The nature of such market will require that we continually improve and/or modify the performance, features, and reliability of our products and services, particularly in response to possible competitive offerings. Unless we are able to enhance, improve, and/or modify existing products in a timely manner or to develop and introduce new products that incorporate new technologies or conform with evolving industry standards and regulations, our products and services may be rendered less marketable.

Our industry is highly competitive. If we are unable to compete effectively with competitors having greater resources than we do, our financial results could be adversely affected.

We operate in highly competitive industries that are characterized by a diverse range of participants, including companies that operate in both the mercury capture and water treatment industries. Our major competitors in the mercury capture and water treatment markets includes companies such as Arq, Inc. (formerly Advanced Emissions Solutions, Inc.), Norit Activated Carbon, Calgon Carbon Corporation, and Nalco Company LLC (also known as Nalco Water, an Ecolab company). Many of our competitors employ larger sales staff and are well established in the market with greater financial and operational resources. Our ability to compete successfully depends in part upon our ability to offer superior technology, including a superior team of technical personnel. If we are unable to maintain our competitive position, we could lose market share to our competitors which is likely to adversely impact our financial results.

We may not be able to successfully protect our intellectual property rights.

As of June 30, 2025, we had a patent portfolio relating to mercury removal of 33 granted patents worldwide, consisting of 26 U.S. patents and 7 foreign patents (Canada, Germany, European Patent Office and China) with expiration dates ranging from August 2025 to September 2034. Fourteen of these patents expired in August 2025. While we actively pursue new patents and technological advancements to replace expiring patents, there is no guarantee that future patents will be granted, or that they will be able to provide and/or allow us to maintain the same level of market protection. As a result, we may not be able to successfully protect proprietary aspects of our technology.

With regard to our water treatment technologies, we have to date filed two provisional patent applications in the U.S. relating to water treatment. However, provisional applications do not provide enforceable patent rights unless they are converted into non-provisional applications and successfully granted by the U.S. Patent and Trademark Office. There is no assurance that our pending provisional applications will result in issued patents, or that any patents granted will provide meaningful protection against competitors.

We may not be successful in patent litigation.

Patent litigation, like most types of commercial litigation, can be expensive, time-consuming, and unpredictable. Any such litigation may require us to spend a substantial amount of time and money and could distract management from our day-to-day operations. There is no assurance that we will be successful in any such litigation. Moreover, in an infringement proceeding, a court may decide that one or more of our patents are not valid or enforceable, or a court may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing.

On March 1, 2024, following a five-day jury trial, a federal jury in the U.S. District Court for the District of Delaware awarded a \$57.1 million patent infringement verdict in our favor against a group of defendants. Nevertheless, the ultimate success in this litigation against this group of defendants still remains uncertain due to other possible factors including, but not limited to, the results of any post-trial motions and applications, appeals and any collectability issues. Following the trial, the Court entered non-final judgments on the verdict against the defendants and the parties submitted post-trial motions relating to the jury trial. The defendants also asserted that the Company's claims were barred due to their defense that they had an implied license to the asserted patents. A bench trial was held on such issue. On June 10, 2025, the Court ruled that the defendants failed to prove that they had such an implied license and denied their motion to alter or amend the non-final judgment. In addition, on September 25, 2025, the Court issued a Memorandum Opinion and Order that denied the defendants' post-trial motion that they should not be held liable as a matter of law for induced infringement, contributory infringement or willful infringement.

We are currently subject to inter partes review proceedings that could adversely affect the enforceability of our patent rights.

Certain of our patents which pertain to mercury removal from coal-fired power plants are currently the subject of inter partes review ("IPR") proceedings before the United States Patent and Trademark Office. IPR proceedings are a mechanism by which third parties can challenge the validity of issued patents, and they have become a frequent tool used by parties seeking to invalidate patents in our industry. Even though a jury has upheld the validity of certain of our patents in the Delaware action described above and in further detail under the heading "Business—Legal Proceedings," the IPR process is independent and could result in the narrowing or invalidation of some or all of the asserted claims which could impair or eliminate our ability to enforce a jury's verdict, collect damages or obtain other relief. While IPRs are a common feature of the U.S. patent system, we believe our patents are valid and enforceable. We intend to actively defend our intellectual property rights, but the outcome of any administrative proceeding cannot be predicted with certainty.

We depend on third-party suppliers for materials needed to implement our technologies; availability of raw materials and volatility in price could impact our results of operations.

We buy all the raw materials needed to implement our technologies and provide uniquely formulated products from third-party suppliers. Suppliers of our raw materials include large companies that have provided materials for decades and have an international presence. We believe that we have excellent relationships with our current suppliers. If any of our suppliers should become unavailable to us for any reason, there are a number of other suppliers that we believe can be contracted with to supply the raw materials that we need. However, the availability and price of those raw materials can be impacted by factors beyond our control including any price increases due to inflation. If such suppliers cannot meet our demand for such raw materials on a timely basis or at acceptable prices or if we are unable to offset any such increases that might occur with price adjustments to our customers, such could have a negative effect on our operations.

We are dependent on key customers. A significant adverse change in such relationships could adversely impact our results of operations and financial condition.

Our customers are concentrated, so the loss of one or more key customers or a material reduction in business performed for them could cause us to experience a decline in net sales, which could adversely affect our financial results. In addition, there can be no assurance that such customers will not experience financial difficulties or other problems which could delay such customers in paying for product and services on a timely basis or at all. Any problems with such customers can be expected to have an adverse impact on our results of operations and financial condition.

We rely on a small number of key employees. The loss of more than one of these employees could disrupt our operations and future growth.

We have a limited number of employees and we depend on the continued services and performance of our key personnel. The loss of more than one member of this team could disrupt our operations and negatively impact our projected future growth. In addition, as we continue to grow, we cannot guarantee we will continue to attract and retain the personnel we need to maintain our competitive position.

Our lack of diversification increases the risk of an investment in the Company.

Our business lacks significant diversification and to date has been dependent on the success of our mercury emission control technologies. As a result, we are impacted more acutely by factors affecting our industry or the regions in which we operate than we would if our business were more diversified, enhancing our risk profile. While we are in the process of developing new technologies, particularly in the water treatment market, no assurance can be made that any such new technologies currently under development will be commercialized or result in a significant revenue stream.

Low gas prices can negatively impact our results of operations; mild weather could also have corresponding effects on the demand for coal.

Our mercury-emissions control technologies are used by coal-fired power plants primarily in the United States. At such times that gas prices remain low for sustained periods of time or such prices drop substantially, power suppliers will likely rely more upon gas-fired units rather than coal plants in meeting their power needs. Historically, gas prices have been volatile and are likely to remain volatile in the future due to numerous factors beyond our control. Although market prices for natural gas have recently remained relatively high, we cannot predict when such prices may decline and remain low for an extended period of time which, in such event, will likely cause a weaker demand for our products. In addition, mild winter months in the U.S. will also result in less of a power demand which will also be expected to negatively impact our operations.

Our insurance coverage may not be adequate to protect us from all business risks.

We may be subject, in the ordinary course of business, to claims resulting from products liability, employment-related actions, class action lawsuits, accidents, acts of God, and other actions against us. Additionally, our insurance coverage may be insufficient to cover all existing and future claims against us. We may be compelled to expend significant time and resources defending any such claims, and a loss that is uninsured or which exceeds policy limits may require us to pay substantial amounts, which could adversely affect our financial condition and operating results.

Litigation resulting from disputes with customers may result in substantial costs, liabilities, and loss of revenues.

From time to time, we may be faced with disputes with our customers over the provisions of supply contracts relating to, among other things, pricing, quality, quantity, and the existence of specified conditions beyond our or our customers' control that impact performance obligations under the particular contract. In the event such disputes occur, we may not be able to resolve those disputes in a satisfactory manner which could have a material adverse effect on our business, financial condition, and results of operations.

Revenues are generated under contracts or blanket purchase orders that must be renegotiated periodically.

Substantially all of our revenues to date have been generated under contracts or blanket purchase orders which expire periodically or which must be frequently renegotiated, extended, or replaced. Whether these contracts or blanket purchase orders are renegotiated, extended, or replaced is often subject to factors that may be beyond our control, including an extremely competitive marketplace for the services we offer. We cannot assure you that the costs and pricing of our services can remain competitive in the marketplace or that we will be successful in renegotiating our contracts and blanket purchase orders.

Business interruptions could significantly disrupt our operations and could have a material adverse impact on us.

Our operations, and those of our suppliers, and other contractors and consultants, could be subject to geopolitical events, natural disasters, power and other infrastructure failures or shortages, public health pandemics or epidemics, extreme weather events, including hurricanes, wildfires and prolonged droughts, and other natural or man-made disasters or business interruptions. Any of such occurrences may disrupt our operations, damage our facilities, affect our supply chains, disrupt our workforce, and impact our business relationships with other third parties. Any such disruptions or losses we incur could have a material adverse effect on our financial results and our ability to conduct business as expected.

Any disruptions to our information technology systems or breaches of our network security could interrupt our operations, compromise our reputation, and expose us to and costly response measures and could have a material adverse effect on our business operations.

We rely on information technology systems, including third-party hosted servers and cloud-based servers, to keep business, financial, and corporate records, communicate internally and externally, and operate other critical functions. If any of our internal systems or the systems of our third-party providers are compromised due to computer virus, unauthorized access, malware, and the like, then sensitive documents could be exposed or deleted, and our ability to conduct business could be impaired. Cyber incidents can result from deliberate attacks or unintentional events. These incidents can include, but are not limited to, unauthorized access to our systems, computer viruses or other malicious code, denial of service attacks, malware, ransomware, phishing, human error, or other events that result in security breaches or give rise to the manipulation or loss of sensitive information or assets. Cyber incidents can be caused by various persons or groups, including disgruntled employees and vendors, activists, organized crime groups, and state-sponsored and individual hackers. Cyber incidents can also be caused or aggravated by natural events, such as earthquakes, floods, fires, power loss, and telecommunications failures. The risk of cybersecurity breach has generally increased as the number, intensity, and sophistication of attempted attacks from around the world has increased. While we have certain cyber security procedures in place, given the evolving nature of these threats, there can be no assurance that we will not suffer material losses in the future due to cyber-attacks.

Maintaining and improving our financial controls may divert management's attention and increase costs.

We are subject to the requirements of the Exchange Act, including the requirements of the Sarbanes-Oxley Act of 2002. The requirements of these rules and regulations have increased in recent years, causing an increase in legal and financial compliance costs, and make some activities more difficult, time-consuming, or costly and may also place undue strain on our personnel, systems, and resources. Such rules and regulations require, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. This can be difficult to do. In this regard, our management concluded our internal control over financial reporting was not effective as of December 31, 2024. While certain remedial actions have been completed, we continue to actively plan for and implement additional control procedures to improve our overall control environment and expect these efforts to continue throughout the rest of 2025 and beyond. As a result of this and similar activities, management's attention may be diverted from other business concerns, which could have a material adverse effect on our business, financial condition, and results of operations. Further, investors could lose confidence in our financial reports, and our stock price may be adversely affected, if our internal controls over financial reporting continue to be found not to be effective by management or if we make disclosure of existing or potential significant deficiencies or material weaknesses in those controls in the future. Relatedly, if we fail to remediate any such material weakness in the future, we may not be able to accurately report our financial condition or results of operations.

Liquidity risk could impair our ability to fund operations and jeopardize our financial condition.

Liquidity, i.e., ready access to funds, is essential to our business. Our access to external sources of financing could be impaired by factors that are specific to us or others that may be outside of our control. As a result, such liquidity risk could impair our ability to fund operations and jeopardize our financial condition.

Discretion in the use of available funds

Management has discretion concerning the use of our available funds, as well as the timing of their expenditure. As a result, investors will be relying on the judgment of management for the application of our available funds. The results and the effectiveness of the application of the available funds are uncertain. If the available funds are not applied effectively, the results of our operations may suffer. Stockholders may not agree with the manner in which management chooses to allocate and spend our available funds.

Possible inability to continue as a going concern.

Based on our current cash levels and burn rate, amongst other things, we believe our cash and financial resources may be insufficient to meet our anticipated needs for the next twelve months, which raises substantial doubt about our ability to continue as a going concern within one year from the issuance date of the financial statements included elsewhere in this prospectus. The financial statements included elsewhere in this prospectus have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of asset amounts or the classification of liabilities that might be necessary should we be unable to continue as a going concern within one year after the date the financial statements are issued.

In addition to maintaining the revenue stream from our legacy mercury emissions control business, our plans and expectations over the twelve months from the issuance date of the financial statements included elsewhere in this prospectus to mitigate such financial condition include receiving additional cash inflows from the judgment expected in connection with the \$57.1 million jury verdict awarded to us in March 2024, additional licensing revenues and product sales from the other patent litigation recently commenced, and revenues from our entry into the water treatment business. During 2024, we opened two new state of the art laboratories and have added personnel to support our entry into the water business which we believe will lead to a vibrant new revenue stream. In addition, management is exploring additional financing opportunities. While management believes these plans will alleviate substantial doubt, there is no assurance that they will be successfully realized or implemented.

Our Board of Directors concluded in 2025 that we needed to restate previously issued financial statements as a result of a change in accounting for a certain license agreement.

On March 28, 2025, our Board of Directors, along with our Audit Committee and with management and, following dialogue with our auditors, concluded that our previously issued financial statements for the periods ended December 31, 2023 and 2022 included in the Company's Annual Reports on Form 10-K, March 31, 2024, June 30, 2024, and September 30, 2024, March 31, 2023, June 30, 2023, and September 30, 2023, included in the Company's Quarterly Reports on Form 10-Q, should no longer be relied upon as a result of the change in accounting for a certain license agreement. We concluded that the Company should have recognized the entire proceeds receivable pursuant to the agreement as revenue during the year ended December 31, 2022. The Company should also have recognized the financing component of the licensing agreement during the fiscal years ended December 31, 2023 and 2024. Such restatement could cause uncertain sentiment in the investment community.

Risks Related to Regulation

Any significant changes in environmental regulations related to mercury emissions and potable water treatment could have a major impact on us.

Our business relies heavily on environmental regulations governing emissions from coal-fired power plants and regulations related to water treatment. In the United States, the MATS rule, issued by the EPA in 2011, is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Potable water treatment is regulated primarily by the EPA under the SDWA, which establishes standards to ensure that water is safe for human consumption. In April 2024, the EPA issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as forever chemicals. The Rule sets limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as GenX). Any changes, rollbacks or delays in these regulations could significantly impact the Company's financial performance and growth prospects. In this regard, on May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS, but also announced its intent to extend the PFOA and PFOS MCL compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA, and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

Since being enacted, the MATS Rule has been subject to legal challenges and modifications which may continue.

Since being enacted in 2011, the MATS regulation has been subject to legal challenge and modifications. In June 2015, the U.S. Supreme Court, in *Michigan v. EPA*, held that the EPA unreasonably failed to consider costs in determining whether it is "appropriate and necessary" to regulate hazardous air pollutants, including mercury, from power plants, but left the rule in place. In April 2016, the EPA issued a supplemental finding in response to the *Michigan* decision and found that, after a consideration of costs, it remained appropriate and necessary to regulate such emissions from coal- and oil-fired power plants. In May 2020, the EPA, then under the first Trump Administration, reversed the determination, finding that, after weighing the costs of compliance against certain benefits of the regulation, the 2016 supplemental finding was erroneous but left the MATS rule in place. Upon taking office, the Biden Administration in January 2021 directed the EPA to review the previous Administration's actions on various environmental matters including the withdrawal of the May 2020 "appropriate and necessary" determination, for conformity with Biden Administration environmental policy. On February 9, 2022, the EPA proposed to revoke the May 2020 finding and reaffirm the EPA's 2016 finding. On February 15, 2023, the EPA reaffirmed that it remains appropriate and necessary to regulate hazardous air pollutants, including mercury, from power plants after considering cost, and revoked the May 2020 finding. In April 2023, the EPA issued a proposal to strengthen and update MATS. Such proposal was finalized and published in May 2024 with an effective date of July 8, 2024, which, among other things, strengthens and updates MATS for coal-fired power plants and tightens the emission standard for mercury for existing lignite-fired power plants to a level that is aligned with the mercury standard that other coal-fired power plants have been achieving under MATS. On March 12, 2025, the newly appointed EPA administrator under the Trump Administration announced plans to roll back dozens of environmental regulations including the reconsideration of the MATS regulation. On April 8, 2025, President Trump signed a Proclamation exempting certain stationary sources, identified in Annex 1 of the Proclamation, from compliance with the 2024 updated MATS Rule. As set out in the Proclamation, the President's exemption lasts for a period of two years beyond the updated Rule's compliance date (i.e., for the period beginning July 8, 2027, and concluding July 8, 2029). During the two-year period these stationary sources identified in Annex 1 are subject to the compliance obligations that they are currently subject to under MATS as the MATS Rule existed prior to the 2024 update. Annex 1 identifies 47 plant owners and over 60 power plants provided such exemption. In June 2025, the EPA proposed to repeal certain amendments finalized in 2024 to the MATS Rule and return compliance obligations to the MATS standards which existed prior to the 2024 update. The EPA intends to finalize action on this proposal by December 2025.

The results of the 2024 United States presidential election has created regulatory uncertainty.

The outcome of the 2024 U.S. presidential election has introduced significant uncertainty regarding future environmental regulations, particularly those affecting mercury emissions from power plants. The newly inaugurated administration has signaled potential shifts in environmental policy, including rollbacks of existing regulations and changes in enforcement priorities. If the administration continues to repeal the MATS Rule, such regulatory changes could materially impact our operations. In addition, any weakening, rollback, or delayed implementation of PFAS-related regulations could reduce demand for our water treatment technologies, testing services, or remediation solutions, negatively impacting our growth prospects.

Uncertainty of and variability in international environmental regulations could restrict our ability to expand outside of the United States.

While the focus of our business has been North America, and particularly the United States, in order to expand our business internationally, we would expect that more restrictive international environmental regulations will need to be enacted for the purpose of mercury control from power plant emissions. In May 2017, the European Union and seven of its member states ratified the Minamata Convention on Mercury. The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. Specific emissions limits are being developed by the European Union, although the timing of any enactment of such is uncertain. With regard to business opportunities in China and other Asian countries, there currently exists no specific mandate for mercury capture that requires specific control technology, such as we offer. Any delay in enactment of more restrictive international regulations or the lack thereof could restrict any efforts and our ability to attract business in Europe and Asia for our emissions technologies.

With regard to our water treatment technologies, we intend to focus on the U.S. market. In the event we seek to expand our water treatment business internationally, we will face a complex array of international water treatment regulations, which vary significantly across countries and may be subject to frequent changes. This regulatory variability introduces uncertainty and potential compliance challenges should we seek to expand globally.

Risks Related to our Common Stock and this Offering

Trading activity for our common stock has varied, and, at times, been limited.

Our common stock is currently traded in Canada on the TSX under the symbol “BCHT” and is quoted in the United States on the OTCQB operated by OTC Markets Group Inc. under the symbol “BCHT”. Historically, the trading volume for our common stock has varied and, at times, been limited. Accordingly, investors may find it more difficult to buy and sell our shares. These factors may have an adverse impact on the trading and price of our common stock.

Our stock price may be volatile, which could result in substantial losses to investors and litigation.

In addition to changes to market prices based on our results of operations and the factors discussed elsewhere in this “*Risk Factors*” section, the market price of and trading volume for our common stock may change for a variety of other reasons, not necessarily related to our actual operating performance. The capital markets have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. In addition, the average daily trading volume of the securities of small companies can be very low, which may contribute to future volatility. Factors that could cause the market price of our common stock to fluctuate significantly include:

- the results of operating and financial performance and prospects of other companies in our industry;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- announcements of innovations, increased service capabilities, new or terminated customers, or new, amended, or terminated contracts by our competitors;
- the public’s reaction to our press releases, other public announcements, and filings with the U.S. Securities and Exchange Commission (“SEC”);
- lack of securities analyst coverage or speculation in the press or investment community about us or market opportunities in our industry or about the market for coal-fired power in the U.S. or abroad;

- changes in government policies in the United States and in foreign countries, if we are able to derive significant business outside of the United States;
- changes in earnings estimates or recommendations by securities or research analysts who track our common stock or failure of our actual results of operations to meet those expectations;
- market and industry perception of our success, or lack thereof, in pursuing our growth strategy;
- changes in accounting standards, policies, guidance, interpretations, or principles;
- any lawsuit involving us, our services, or our products;
- arrival and departure of key personnel;
- sales of common stock by us, our investors or members of our management team; and
- changes in general market, economic and political conditions in the United States, and global economies or financial markets, including those resulting from natural or man-made disasters.

Any of these factors, as well as broader market and industry factors, may result in large and sudden changes in the trading volume of our common stock and could seriously harm the market price of our common stock, regardless of our operating performance. This may prevent you from being able to sell your shares at or above the price you paid for your shares of our common stock, if at all. In addition, following periods of volatility in the market price of a company's securities, stockholders often institute securities class action litigation against that company. Our involvement in any class action suit or other legal proceeding could divert our senior management's attention and could adversely affect our business, financial condition, results of operations, and prospects.

Shares eligible for future sale may have adverse effects on our share price.

Sales of substantial amounts of shares or the perception that such sales could occur may adversely affect the prevailing market price for our shares. We may issue additional shares in subsequent public offerings or private placements to make new investments or for other purposes. We are not required to offer any such shares to existing stockholders on a preemptive basis. Therefore, it may not be possible for existing stockholders to participate in such future share issuances, which may dilute the existing stockholders' interests in us.

We do not anticipate paying any cash dividends on our capital stock in the foreseeable future.

We have never declared or paid any cash dividends on our capital stock, and we do not anticipate paying any cash dividends on our capital stock in the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our Board of Directors. Accordingly, capital appreciation, if any, of our common stock may be your sole source of gain for the foreseeable future.

We may need additional capital in the future, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions.

We may need additional capital in the future, which may not be available on acceptable terms or at all, to among other things, continue investing in our business, pursue acquisitions and other strategic transactions. Future financings may involve the issuance of debt, equity, and/or securities convertible into or exercisable or exchangeable for our equity securities. These financings may not be available to us on commercially reasonable terms or at all if and when we require funding. If we are able to consummate such financings, the trading price of our common stock could be adversely affected and/or the terms of such financings may adversely affect the interests of our existing stockholders. Any failure to obtain additional working capital, if and when required, could have a material adverse effect on our business and financial condition and may result in a decline in our stock price.

Our officers and directors are entitled to indemnification from us for liabilities under our articles of incorporation, which could be costly to us and may discourage the exercise of stockholder rights.

Our articles of incorporation provide that we possess and may exercise all powers of indemnification of our officers, directors, employees, agents, and other persons and our bylaws also require us to indemnify our officers and directors as permitted under the provisions of the Delaware General Corporate Law (the “DGCL”). The foregoing indemnification obligations could result in our incurring substantial expenditures to cover the cost of settlement or damage awards against directors and officers. These provisions and resultant costs may also discourage us from bringing a lawsuit against directors, officers, and employees for breaches of their fiduciary duties, and may similarly discourage the filing of derivative litigation by our stockholders against our directors, officers, and employees even though such actions, if successful, might otherwise benefit the Company and stockholders.

Our common stock is currently characterized as a “penny stock” under SEC rules. It may be more difficult to resell securities classified as “penny stock.”

Our common stock is currently characterized as a “penny stock” under applicable SEC rules (generally defined as non-exchange traded stock with a per-share price below \$5.00). While we do not expect our common stock to be a “penny stock” upon consummation of this offering and the proposed listing on NYSE American, if we are later deemed a “penny stock”, certain rules impose additional sales practice requirements on broker-dealers that recommend the purchase or sale of penny stocks to persons other than those who qualify as “established customers” or “accredited investors.” For example, broker-dealers must determine the appropriateness for non-qualifying persons of investments in penny stocks. Broker-dealers must also provide, prior to a transaction in a penny stock not otherwise exempt from the rules, a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, disclose the compensation of the broker-dealer and its salesperson in the transaction, furnish monthly account statements showing the market value of each penny stock held in the customer’s account, provide a special written determination that the penny stock is a suitable investment for the purchaser, and receive the purchaser’s written agreement to the transaction.

U.S. legal remedies available to an investor in “penny stocks” may include the following:

- If a “penny stock” is sold to the investor in violation of the requirements listed above, or other federal or states securities laws, the investor may be able to cancel the purchase and receive a refund of the investment.
- If a “penny stock” is sold to the investor in a fraudulent manner, the investor may be able to sue the persons and firms that committed the fraud for damages.

These requirements may have the effect of reducing the level of trading activity, if any, in the secondary market for a security that becomes subject to the penny stock rules. The additional burdens imposed upon broker-dealers by such requirements may discourage broker-dealers from effecting transactions in our securities, which could severely limit the market price and liquidity of our securities. These requirements may restrict the ability of broker-dealers to sell our common stock and may affect your ability to resell our common stock.

Many brokerage firms will discourage or refrain from recommending investments in penny stocks. Most institutional investors will not invest in penny stocks. In addition, many individual investors will not invest in penny stocks due, among other reasons, to the increased financial risk generally associated with these investments.

For these reasons, penny stocks may have a limited market and, consequently, limited liquidity. We can give no assurance at what time, if ever, our common stock will not be classified as a “penny stock” in the future.

If our application to list our common stock on NYSE American is not approved for any reason in connection with this offering and we cannot continue to satisfy the continued listing requirements, of the TSX, our securities may be delisted from the TSX, which could negatively impact the price of our securities and your ability to sell them.

On July 20, 2023, our shares of common stock began to trade on the TSX Venture Exchange (“TSXV”). On October 9, 2024, we received conditional approval to list our common stock on the TSX and uplist from the TSXV to the TSX, and on November 12, 2024, our common stock commenced trading on the TSX. If our application to list our common stock on NYSE American is not approved in connection with this offering, we cannot assure you that our common stock will continue to be listed on the TSX. In order to maintain our listing on the TSX, we will be required to comply with certain rules of the TSX, including those regarding a minimum public float, and various additional requirements. We may not be able to continue to satisfy these requirements and applicable rules. If we are unable to satisfy the TSX criteria for maintaining our listing, our common stock could be subject to delisting from the TSX.

If the TSX subsequently delists our common stock from trading, we could face significant consequences, including:

- a limited availability for market quotations for our securities;
- reduced liquidity with respect to our securities;
- limited amount of news and analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

Potential future sales pursuant to Rule 144 may depress the price of our common stock.

Many of the shares of our common stock presently held by management and others are “restricted securities” as that term is defined in Rule 144, promulgated under the United States Securities Act of 1933, as amended (the “Securities Act”). Under Rule 144 of the Securities Act, a person (or persons whose shares are aggregated) who has satisfied a certain holding period, may, under certain circumstances, sell such shares or a portion of such shares. Such holding periods have already been satisfied in many instances. Therefore, actual sales or the prospect of sales of such shares under Rule 144 in the future may depress the price of our common stock.

Except as required by the federal securities laws, we do not undertake any obligation to release publicly any revisions to any forward-looking statements to reflect events or circumstances after the date of this prospectus or for any other reason.

Our Chief Executive Officer has the ability to significantly influence all matters submitted to our stockholders for approval.

As of October 20, 2025, our Chief Executive Officer, Richard MacPherson, beneficially owned approximately 14.81% of our outstanding shares of common stock. As a result, Mr. MacPherson is able to significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, Mr. MacPherson would control or significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of the Company on terms that other stockholders may desire. Substantial sales of our common stock could cause the price of our common stock to decline.

Delaware law, our certificate of incorporation and bylaws contain certain provisions, including anti-takeover provisions, that limit the ability of stockholders to take certain actions and could delay or discourage takeover attempts that stockholders may consider favorable.

Our certificate of incorporation, bylaws and the DGCL contain provisions that could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our Board of Directors and therefore depressing the trading price of our common stock. These provisions also could make it difficult for stockholders to take certain actions, including electing directors who are not nominated by the current members of our Board of Directors or taking other corporate actions, including effecting changes in our management. Among other things, our certificate of incorporation and bylaws include provisions regarding:

- the ability of our Board of Directors to determine the rights, preferences and privileges of our preferred stock and to issue the preferred stock without stockholder approval;

- advance notice requirements for election to our Board of Directors and for proposing matters that can be acted upon at stockholder meetings;
- vacancies on our Board of Directors may be filled by a majority of directors then in office, although less than a quorum;
- authority granted to our Board of Directors to increase or decrease the size of our Board of Directors;
- authorization for our Board of Directors, by majority vote, to amend the bylaws; and
- under the DGCL, stockholders are not entitled to cumulative voting in the election of directors unless specifically provided for; our certificate of incorporation and bylaws do not provide for cumulative voting.

Risks Related to this Offering

Investors in this offering will experience immediate and substantial dilution in net tangible book value.

The public offering price per share of our common stock will be substantially higher than the net tangible book value per share of our outstanding shares of common stock as of [REDACTED], 2025. As a result, investors in this offering will incur immediate dilution of \$ [REDACTED] per share, based on the public offering price of \$ [REDACTED] per share. Investors in this offering will pay a price per share that substantially exceeds the book value of our assets after subtracting our liabilities. See “Dilution” for a more complete description of how the value of your investment will be diluted upon the completion of this offering.

Immediately prior to the consummation of this offering, we expect to have approximately [REDACTED] outstanding stock options to purchase our common stock with exercise prices that are below the assumed public offering price of our common stock. To the extent that these options are exercised, there will be further dilution.

If we cannot satisfy the initial listing standards for listing on NYSE American in connection with this offering, or in the event that our listing application is approved and we subsequently fail to comply with the standards for continued listing on NYSE American, this could negatively impact the price of our common stock and your ability to sell your shares of common stock.

We will seek to have our common stock approved for listing on NYSE American upon consummation of this offering. We cannot assure you that we will be able to meet those initial listing requirements at that time. Even if our common stock is listed on NYSE American, we cannot assure you that our common stock will continue to be listed on NYSE American.

In addition, following this offering, in order to maintain our listing on NYSE American, we will be required to comply with certain rules of NYSE American, including those regarding minimum stockholders’ equity, minimum share price, minimum market value of publicly held shares, and various additional requirements. Even if we initially meet the listing requirements and other applicable rules of NYSE American, we may not be able to continue to satisfy these requirements and applicable rules. If we are unable to satisfy NYSE American criteria for maintaining our listing, our securities could be subject to delisting.

If NYSE American subsequently delists our common stock from trading, we could face significant consequences, including:

- reduction in the market price of our common stock;
- a limited availability for market quotations for our common stock;
- reduced liquidity with respect to our common stock;

- a determination that our common stock is a “penny stock,” which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our common stock;
- our ability to obtain financing for the continuation of our operations;
- the number of institutional and general investors that will consider investing in our common stock;
- the number of investors in general that will consider investing in our common stock;
- the number of market makers in our common stock;
- the number of broker-dealers willing to execute trades in shares of our common stock;
- the availability of information concerning the trading prices and volume of our common stock;
- limited amount of news and analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

Even if we effect the reverse stock split of our common stock, we cannot assure you that the market price of our common stock will remain high enough for such reverse stock split to have the intended effect of complying with NYSE American’s minimum price requirement.

In connection with this offering and the uplist of our common stock to NYSE American, we intend to effect the reverse stock split with the primary purpose to allow us to meet NYSE American’s minimum price requirement. There can be no assurance that the market price of our common stock following the reverse stock split will remain at the level required for compliance with that requirement. In any event, other factors unrelated to the number of shares of our common stock outstanding, such as negative financial or operational results, could adversely affect the market price of our common stock and thus jeopardize our ability to meet or maintain NYSE American’s minimum price requirement.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds will be used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment.

The failure by our management to apply these funds effectively could harm our business. If we do not apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our Company. If no securities or industry analysts commence coverage of our Company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price may decline. If one or more of these analysts ceases coverage of our Company or fails to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

The sale or availability for sale of substantial amounts of common stock could adversely affect their market price.

We expect to raise capital to fund our business by issuing additional shares of common stock and/or securities convertible into common stock, and the sales of substantial amounts of the common stock in the public market after the completion of this offering, or the perception that these sales could occur, could adversely affect the market price of the common stock and could materially impair our ability to raise capital through equity offerings in the future. The common stock sold in this offering will be freely tradable without restriction or further registration under the Securities Act, and shares held by our existing stockholders may also be sold in the public market in the future subject to the restrictions under the Securities Act. Future sales and issuances of our capital stock or rights to purchase our capital stock could result in substantial dilution to our existing stockholders. We may sell common stock, convertible securities and other equity securities in one or more transactions at prices and in a manner as we may determine from time to time. If we sell any such securities in subsequent transactions, investors may be materially diluted. New investors in such subsequent transactions could gain rights, preferences and privileges senior to those of holders of our common stock. Additionally, sales of shares by our directors, executive officers and holders of 5% or more of our outstanding common stock could have a material adverse effect on the trading price of our common stock.

There will be shares of common stock outstanding immediately after this offering, as adjusted for a reverse stock split of our common stock at a 1-for-
ratio, or shares of common stock if the underwriters exercise their option to purchase additional shares in full pursuant to the over-allotment option.

Techniques employed by short sellers may drive down the market price of our common stock.

Short selling is the practice of selling securities that the seller does not own but rather has borrowed from a third party with the intention of buying identical securities back at a later date to return to the lender. The short seller hopes to profit from a decline in the value of the securities between the sale of the borrowed securities and the purchase of the replacement shares, as the short seller expects to pay less in that purchase than it received in the sale.

As it is in the short seller's interest for the price of the security to decline, many short sellers publish, or arrange for the publication of, negative opinions regarding the relevant issuer and its prospects to create negative market momentum and generate profits for themselves after selling a security short. These short attacks have, in the past, led to selling of shares in the market.

It is not clear what effect such negative publicity could have on us. If we were to become the subject of any unfavorable allegations, whether such allegations are proven to be true or untrue, we could have to expend significant resources to investigate such allegations and/or defend ourselves.

We may be constrained in the manner in which we can proceed against the relevant short seller by principles of freedom of speech, applicable state law or issues of commercial confidentiality. Such a situation could be costly and time-consuming, and could distract our management from growing our business. Even if such allegations are ultimately proven to be groundless, allegations against us could severely impact our business, and any investment in the common stock could be greatly reduced or even rendered worthless.

We may be subject to securities litigation, which is expensive and could divert our management's attention.

The market price of our securities may be volatile, and in the past companies that have experienced volatility in the market price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

There is no assurance that an investment in our securities will earn any positive return.

There is no assurance that an investment in our common stock will earn any positive return. An investment in our common stock involves a high degree of risk and should be undertaken only by investors whose financial resources are sufficient to enable them to assume such risks and who have no need for immediate liquidity in their investment. An investment in our common stock is appropriate only for investors who have the capacity to absorb a loss of some or all of their investment.

An investment in our common stock, and certain subsequent transactions with respect to our common stock, may result in uncertain or adverse U.S. federal income tax consequences for an investor.

An investment in our common stock, and certain subsequent transactions with respect to our common stock, may result in uncertain or adverse U.S. federal income tax consequences for an investor. See the section entitled "Material U.S. Federal Income Tax Consequences to Non-U.S. Holders" below for a summary of the principal U.S. federal income tax consequences of an investment in our common stock. Each prospective investor is urged to consult with and rely solely upon its own tax advisors with respect to these and other tax consequences when purchasing, holding or disposing of our common stock.

The proposed reverse stock split could cause our stock price to decline relative to its value before the split and decrease the liquidity of shares of our common stock.

We will effect a 1-for- $\frac{1}{2}$ reverse stock split of our issued and outstanding common stock immediately following the effectiveness but prior to the closing of this offering. There is no assurance that the reverse stock split will not cause a decline in the value of our outstanding common stock. The liquidity of the shares of our common stock may be affected adversely by the reverse stock split given the reduced number of shares that will be outstanding following the reverse stock split, especially if the market price of our common stock does not increase as a result of the reverse stock split. In addition, the reverse stock split may increase the number of stockholders who own odd lots (less than 100 shares) of our common stock, creating the potential for such stockholders to experience an increase in the cost of selling their shares and greater difficulty effecting such sales.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. Such forward-looking statements include those that express plans, anticipation, intent, contingency, goals, targets, or future development and/or otherwise are not statements of historical fact. These forward-looking statements are based on our current expectations and projections about future events and they are subject to risks and uncertainties known and unknown that could cause actual results and developments to differ materially from those expressed or implied in such statements.

In some cases, you can identify forward-looking statements by terminology, such as “expects,” “anticipates,” “intends,” “estimates,” “plans,” “believes,” “seeks,” “may,” “should,” “could,” or the negative of such terms or other similar expressions, but the absence of this terminology does not mean that a statement is not forward-looking. Accordingly, these statements involve estimates, assumptions, and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the risks discussed throughout this prospectus. Such risks include, without limitation, the following:

- changes in general economic and business conditions;
- risks related to our industry, including regulatory changes and competitive pressures;
- the loss of major customers;
- dependence and availability and retention of key suppliers;
- risks related to advancement in technologies;
- lack of diversification in our business;
- risks related to intellectual property, including the ability to protect intellectual property and the success of any patent litigation;
- changes in demand for coal as a fuel source for electricity production;
- development and growth of our new technologies, particularly in the water treatment market;
- ability to retain key personnel;
- the potential that dividends may never be declared;
- varied, and, at times, limited trading activity for our common stock;
- volatility in our stock price; and
- other factors described in the section entitled “Risk Factors”.

You should read this prospectus (as it may be supplemented or amended) and the documents that we reference herein and therein and have filed as exhibits to the registration statement, of which this prospectus is part, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this prospectus is accurate as of the date on the front cover of this prospectus only. Because the risk factors referred to above, as well as the risk factors referred to on page 11 of this prospectus, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. We qualify all of the information presented in this prospectus, and particularly our forward-looking statements, by these cautionary statements.

Except to the extent required by applicable laws or rules, we undertake no obligation to publicly update or revise any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future events, or otherwise. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained above and throughout this prospectus and in the documents incorporated by reference in this prospectus. We qualify all of our forward-looking statements by these cautionary statements.

IN ADDITION TO THE ABOVE RISKS, BUSINESSES ARE OFTEN SUBJECT TO RISKS NOT FORESEEN OR FULLY APPRECIATED BY MANAGEMENT. IN REVIEWING THIS PROSPECTUS AND THE DOCUMENTS INCORPORATED BY REFERENCE IN THIS PROSPECTUS, POTENTIAL INVESTORS SHOULD KEEP IN MIND THAT THERE MAY BE OTHER POSSIBLE RISKS THAT COULD BE IMPORTANT.

USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately \$ million from the sale of the shares of common stock offered in this offering, or approximately \$ million if the underwriters exercise their over-allotment option in full, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

We currently intend to use the net proceeds from this offering, together with our existing cash, for, among other things, continuing operating expenses, working capital and other general corporate purposes.

Each \$1.00 increase or decrease in the assumed public offering price of \$ per share, the last reported sale price per share of our common stock on the OTCQB on , 2025, would increase or decrease the net proceeds to us from this offering by \$ million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares of common stock offered by us, would increase or decrease the net proceeds to us by \$ million, assuming the assumed public offering price per share remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The expected use of net proceeds of this offering represents our current intentions based upon our present plan and business conditions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. The amounts and timing of our actual expenditures will depend upon numerous factors, including our sales and marketing and commercialization efforts, demand for our products, our operating costs, and the other factors described under "Risk Factors" in this prospectus. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from this offering.

DIVIDEND POLICY

We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business, and therefore do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our Board of Directors and will depend on, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects, and other factors our Board of Directors may deem relevant. Investors should not purchase our common stock with the expectation of receiving cash dividends.

CAPITALIZATION

The following table sets forth our capitalization as of June 30, 2025:

- on an actual basis, as adjusted for a reverse stock split of our common stock at a 1-for- ratio; and
- on an as-adjusted basis to reflect the issuance and sale by us of shares of our common stock in this offering at the assumed public offering price of \$ per share after deducting underwriting discounts and commissions and estimated offering expenses payable by us and the receipt by us of the proceeds of such sale.

You should read this information together with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included elsewhere in this prospectus.

	As of June 30, 2025	
	As Actual (unaudited)	As Adjusted (unaudited)
Cash and cash equivalents	\$	\$
Total liabilities		
Stockholders’ equity:		
Preferred stock, \$0.001 par value: 2,000,000 shares authorized, no shares issued	—	
Common stock, \$0.001 par value; 150,000,000 shares authorized, shares issued and outstanding (actual); issued and outstanding (as adjusted)	shares issued and outstanding	
Additional paid-in capital		
Accumulated deficit		
Total stockholders’ (deficit) equity		
Total capitalization	\$	\$

After giving effect to the planned reverse stock split of our common stock at a ratio of 1-for-, the number of shares of common stock to be outstanding after this offering is based on shares of common stock outstanding at June 30, 2025, and excludes the following:

- shares of common stock issuable upon exercise of our outstanding stock options at a weighted average exercise price of \$ per share; and
- shares of common stock reserved for issuance pursuant to the 2017 Equity Incentive Plan (the “2017 Plan”).

Unless otherwise indicated, all information in this prospectus reflects or assumes no exercise by the underwriters of their option to purchase up to additional shares of common stock in this offering.

To the extent that outstanding options are exercised or shares are issued under our equity incentive plans, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share of our common stock and the as-adjusted net tangible book value per share of our common stock immediately after this offering.

As of June 30, 2025, our historical net tangible book value (deficit), as adjusted for a reverse stock split of our common stock at a 1-for- ratio, was , or per share of our common stock. Net tangible book value (deficit) per share represents our total tangible assets (total assets less intangible assets) less total liabilities and convertible preferred stock, divided by the total number of our outstanding shares of common stock as of June 30, 2025, as adjusted for a reverse stock split of our common stock at a 1-for- ratio.

After giving effect to the sale and issuance of shares of common stock in this offering, at the assumed public offering price of \$ per share, the most recent reported sale price of our common stock on , 2025, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2025 would have been approximately \$ million, or \$ per share of our common stock. This represents an immediate increase in net tangible book value of approximately \$ per share to our existing stockholders and an immediate dilution of \$ per share to new investors.

Dilution per share to investors participating in this offering is determined by subtracting as-adjusted net tangible book value per share after this offering from the public offering price per share paid by investors participating in this offering. The following table illustrates this dilution (without giving effect to any exercise by the underwriters of their option to purchase additional shares):

Assumed public offering price per share	\$
Net tangible book value per share as of June 30, 2025	\$
Increase in net tangible book value per share attributable to investors participating in this offering	\$
As-adjusted net tangible book value per share immediately after this offering	\$
Dilution in as-adjusted net tangible book value per share to new investors participating in this offering	\$

The dilution information discussed above is illustrative and will change based on the actual public offering price and other terms of this offering determined at pricing. If the underwriters exercise their option to purchase additional shares in full, our as adjusted net tangible book value per share after this offering would be approximately \$ per share, and the dilution in as adjusted net tangible book value per share to new investors participating in this offering would be \$ per share.

A \$1.00 increase (decrease) in the assumed public offering price of \$ per share, would increase (decrease) the as-adjusted net tangible book value by \$ per share and the dilution to investors participating in this offering by \$ per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated expenses payable by us.

Similarly, each increase (decrease) of one million shares in the number of shares offered by us in this offering would increase (decrease) the as adjusted net tangible book value by \$ per share and the dilution to investors participating in this offering by \$ per share, assuming the assumed public offering price of \$ per share, remains the same, assuming the number of shares sold in the concurrent private placements are decreased (increased) accordingly and after deducting estimated underwriting discounts and commissions and estimated expenses payable by us.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the "Summary Financial Data" section of this prospectus and our consolidated financial statements and the related notes appearing elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks, uncertainties, and assumptions. You should read the "Special Note Regarding Forward-Looking Statements" and "Risk Factors" sections of this prospectus for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Restatements of Previously Issued Consolidated Financial Statements

As described in Note 2-Restatement of Previously Issued Financial Statements to our consolidated financial statements for the year ended December 31, 2024 included elsewhere in this prospectus, for the period ended December 31, 2024, management identified an error in the previously reported financial statements related to the under recognition of revenue during the year ended December 31, 2022. The Company entered into a license agreement for which it should have recognized the entire proceeds receivable pursuant to the agreement as revenue during the year ended December 31, 2022. The Company should also have recognized the financing component of the licensing agreement during the fiscal years ended December 31, 2023 and 2024. As a result, the consolidated financial statements appearing elsewhere in this prospectus reflect this restatement.

Overview

Business Operations

We are a provider of specialty activated carbon technologies, delivering innovative solutions for air and water purification. We provide patented and proprietary technologies for mercury emissions capture to the coal-fired utility sector, and are developing disruptive water purification technologies with a specialization on forever chemicals such as PFAS and PFOS.

Mercury Emissions

We provide mercury capture solutions for coal-fired power plants driven by our patented two-part SEA® process using a powerful combination of science and engineering. Our leading-edge services have been shown to achieve mercury emissions removal at a significantly lower cost and with less operational impact to coal-fired power plants than other used methods, while maintaining and/or increasing power plant output and preserving the marketability of byproducts for beneficial use. We design systems and materials tailored and formulated specifically to each customer's coal-fired units. North America is currently the largest market for our emissions technologies. The market for mercury removal from power plant emissions in the United States have largely been driven by federal regulations. The MATS rule, proposed by the EPA in May 2011 and which became effective in April 2012, is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Our mercury removal technologies and systems achieve mercury removal levels which meet or exceed the MATS requirements with lower cost and plant systems impacts than typical PAC or BAC sorbent injection systems. Our products have been shown to be successful across a myriad of fuel and system types, tunable to any configuration, and environmentally friendly, allowing for the recycling of fly ash for beneficial use.

Our SEA® technology provides total mercury control with solutions that are based on a thorough scientific understanding of actual and probable interactions involved in mercury capture in coal-fired flue gas. A complete understanding of the complexity of mercury-sorbent-flue gas interactions and chemisorption mechanisms allows for optimal control strategy and product formulation, resulting in effective mercury capture. Combined with a thorough proprietary audit of the plant and its configuration and instrumentation, we believe our complete science and engineering approach for mercury-sorbent-flue gas interactions are well-understood, highly predictive, and critical to delivering total mercury control.

We believe that a significant percentage of coal-fired power plants in the United States have adopted and are infringing upon our two-part Sorbent Enhancement Additive (SEA®) process for mercury removal from coal-fired power plants.

Beginning in 2019, we began to actively enforce our patent rights against unauthorized use of our patented technologies, and have since initiated patent litigation in various jurisdictions against multiple infringers, claiming infringement of our patents related to our two-part process for mercury removal from coal-fired power plants. We view such litigation as a last resort. Our goal and overall strategy is to convert infringers to our supply chain of sorbent products for mercury removal, or otherwise license our patents to them on a non-exclusive basis in connection with their respective coal-fired power plants.

In April 2023, the EPA issued a proposal to strengthen and update MATS. Such proposal was finalized and published in May 2024 with an effective date of July 8, 2024 which, among other things, strengthens and updates MATS for coal-fired power plants and tightens the emission standard for mercury for existing lignite-fired power plants to a level that is aligned with the mercury standard that other coal-fired power plants have been achieving under MATS.

On March 12, 2025, the newly appointed EPA administrator under the Trump Administration announced plans to roll back dozens of environmental regulations including the reconsideration of the MATS regulation. On April 8, 2025, President Trump signed a Proclamation exempting certain stationary sources, identified in Annex 1 of the Proclamation, from compliance with the 2024 updated MATS Rule. As set out in the Proclamation, the President's exemption lasts for a period of two years beyond the updated Rule's compliance date (i.e., for the period beginning July 8, 2027, and concluding July 8, 2029). During the two-year period these stationary sources identified in Annex 1 are subject to the compliance obligations that they are currently subject to under MATS as the MATS Rule existed prior to the 2024 update. Annex 1 identifies 47 plant owners and over 60 power plants provided such exemption, which list includes a number of our customers.

In June 2025, the EPA proposed to repeal certain amendments finalized in 2024 to the MATS Rule and return compliance obligations to the MATS standards which existed prior to the 2024 update. The EPA intends to finalize action on this proposal by December 2025.

Water Treatment

In April 2024, the EPA under the Biden Administration issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as “forever chemicals”. The Rule established legally enforceable MCLs for six PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs, and PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. Under the Rule, public water systems must monitor these PFAS and must complete initial monitoring by 2027, followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.

In April 2024, we announced the introduction of our new water treatment business to address the growing potable (drinking) water market with next-generation sorbent technologies. These new solutions are being designed to use significantly less activated carbon, offering a more environmentally sustainable approach to water treatment while maintaining or improving contaminant removal performance. Our products target not only compliance with emerging PFAS regulations, but also broader opportunities in water quality improvement positioning us to serve a large and expanding market.

As part of this strategic pivot, we have invested in the commissioning of two state-of-the-art laboratory facilities—one in Pennsylvania and one in North Dakota—referred to as our “Design Centers.” The Design Centers are dedicated sites for water treatment innovation and development. Together, we believe these facilities represent the only known facilities that have integrated capability in North America to thermally reactivate spent GAC under controlled conditions and subsequently conduct RSSCTs to directly compare reactivated GAC performance against virgin carbon counterpart. This combination allows us to evaluate reactivated GAC as a sustainable and cost-effective alternative to virgin carbon and address key water utility questions including how to optimize media changeout schedules, strategies to reduce operational costs, and provide lab-based validation of treatment performance for PFAS and other contaminants.

These Design Centers will also function as a direct resource for the water treatment industry, offering thermal reactivation, contaminant analysis, and carbon performance evaluations. By enabling municipal and industrial utilities to lower compliance costs and improve operational efficiency, we expect to build strong technical credibility and customer engagement ahead of large-scale market adoption. Importantly, we believe our technology platform is not solely dependent on PFAS regulations as market demand for improved water treatment solutions is broad.

Our investment in our Design Centers also serves as the basis for our planned commercial thermal reactivation plants which we intend to open and operate in the future. Data generated from the Design Centers is being used to define permitting requirements, capital expenditure parameters, and projected operating costs accelerating the commercialization timeline while avoiding costly future reliance on third-party providers.

On May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS. As part of this action, the EPA also announced its intent to extend the PFOA and PFOS MCL compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA (commonly known as GenX), and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

In light of evolving water regulations and funding dynamics, we believe the Company is well positioned to capture a meaningful share in the rapidly growing water treatment sector.

Additional Information

In May 2024, we announced the appointment of David Mazyck to head our new business line to address the potable (drinking) water market with new sorbent technologies under development. In June 2025, he was appointed our Executive Director of Innovation and Commercialization. In addition, in May 2024, we announced the appointment of Dennis Baranik as Director of National Sales. Mr. Baranik oversees product sales and IP licensing in the Company's core business for mercury emissions capture as well as support both product and business development for the water market. Also, in June 2025, we announced the appointment of Christopher Rinaldi as Director of Strategic Operations, with a focus on our water treatment business.

Effective on October 17, 2024, as part of our rebranding, we changed our corporate name from Midwest Energy Emissions Corp. to Birchtech Corp. pursuant to a certificate of amendment to our certificate of incorporation filed with the State of Delaware, and on October 17, 2024 our common stock commenced trading under the ticker symbol "BCHT".

On October 9, 2024, we received conditional approval to list our shares of common stock on the TSX and graduate from the TSXV to the TSX. On November 12, 2024, our shares commenced trading on the TSX under the ticker symbol "BCHT".

Other Recent Developments

On February 27, 2024, and pursuant to a Debt Restructuring Agreement entered into on such date with AC Midwest Energy LLC ("AC Midwest"), we made an approximate \$9.0 million principal payment against an approximate \$13.2 million unsecured note held by AC Midwest and repaid in full the remaining principal balance of approximately \$272,000 due on a secured note held by AC Midwest. As part of the restructuring, we negotiated a reduction in the profit participation preference held by AC Midwest from approximately \$17.7 million to \$7.9 million (the "Restructured Profit Share"). Such Restructured Profit Share is "non-recourse" and shall only be paid from net litigation proceeds from claims relating to our intellectual property. In addition, pursuant to the Debt Restructuring Agreement, in March 2024, we were able to facilitate the private sale of certain shares of common stock held by AC Midwest and received a \$960,000 credit toward the remaining balance due on the unsecured note. In August 2024, we repaid in full the remaining principal balance of approximately \$3.2 million due on the unsecured note held by AC Midwest. As a result, the only remaining debt obligation to AC Midwest is the "non-recourse" Restructured Profit Share.

Following a five-day trial, on March 1, 2024, we were awarded a \$57.1 million patent infringement verdict by a federal jury in the U.S. District Court for the District of Delaware against a remaining group of defendants in the lawsuit commenced by us in 2019. Such group of affiliated defendants included multiple limited liability companies with refined coal industry operations, including CERT Operations II LLC, CERT Operations IV LLC, CERT Operations V LLC, and CERT Operations RCB LLC. The jury determined that these defendants infringed our patented technologies for mercury emissions and were liable for willful infringement, along with inducing and contributory infringement. Following the trial, the Court entered non-final judgments on the verdict against the CERT defendants and the parties submitted post-trial motions relating to the jury trial. The CERT defendants also asserted that the Company's claims were barred due to their defense that they had an implied license to the asserted patents. A bench trial was held on such issue. On June 10, 2025, the Court ruled that the CERT defendants failed to prove that they had such an implied license and denied their motion to alter or amend the non-final judgment. In addition, on September 25, 2025, the Court issued a Memorandum Opinion and Order that denied the CERT defendants' post-trial motion that they should not be held liable as a matter of law for induced infringement, contributory infringement or willful infringement. We are awaiting the Court's determination as to the final judgment.

In July 2024, we commenced three additional patent infringement lawsuits in U.S. District Courts in Arizona, Iowa and Missouri against multiple utilities and related entities. These actions allege willful infringement of our patents related to mercury emissions control. In October 2024, we entered into an agreement with one of the utility defendants and an affiliated entity in the Arizona action, and in January 2025, we entered into an agreement with another utility named in the Arizona action. Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to our two-part SEA® process for use in connection with a certain designated coal-fired power plant operated by them. The agreements include one-time license fees which have been received by us. One agreement provides us with a right of first refusal for certain of such utility's product supply for mercury emissions capture at such designated power plant and the other agreement provides us with the right to be included in such party's bidding process for certain product supply for mercury emissions capture at such party's designated power plant.

On December 17, 2024, the U.S. Judicial Panel on Multidistrict Litigation ordered the consolidation of the three lawsuits in the U.S. District Court for the Southern District of Iowa for coordinated pretrial proceedings. In January 2025, we initiated an additional infringement suit in the Western District of Missouri against several Evergy-affiliated entities. One of such defendants was dismissed from the Western District of Missouri action and named as a defendant in a separate case commenced in the U.S. District Court for the District of Kansas. Such cases were transferred to the Iowa court pursuant to the existing transfer order.

Between January and July 2025, certain defendants in the consolidated Iowa actions filed IPR petitions with the U.S. Patent and Trademark Office seeking to invalidate various asserted claims.

On March 19, 2025, we announced that our Board of Directors authorized a share repurchase program under which the Company may purchase up to \$5.0 million of its common stock. Purchases under the share repurchase program may be made from time to time, in such amounts as management deems appropriate, through a variety of methods, which may include open market purchases, privately negotiated transactions, block trades, accelerated share repurchase transactions, purchases through 10b5-1 trading plans, or by any combination of such methods. The timing and amount of any repurchases pursuant to the share repurchase program will be determined based upon a variety of factors, including general market conditions, share price, corporate and regulatory requirements and limitations, corporate liquidity requirements and priorities, and other factors. The share repurchase program does not have an expiration date, does not require the Company to repurchase any specific number of shares of its common stock, if any, and may be modified, suspended or terminated at any time without notice. During the three and six months ended June 30, 2025, there were no repurchases made under the program.

Effective as of August 5, 2025, we entered into separate agreements with two utilities, which are affiliated with each other, and named as defendants in the Southern District of Iowa action. In addition, as of September 9, 2025, we entered into an agreement with a utility and its affiliated entities, named as defendants in the Western District of Missouri and District of Kansas actions. Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to our two-part Sorbent Enhancement Additive (SEA®) process for use in connection with certain designated coal-fired power plants operated by them. Each agreement includes a one-time license fee. The agreements effective as of August 5, 2025 entered into with the two utilities, provide us with the right to be included in each utility's bidding process for certain product supply for mercury emissions capture at such party's operated power plants. Such utilities have also agreed to withdraw from the IPR petitions.

Effective as of September 30, 2025, we entered into an agreement with another utility not named as a defendant in our patent litigations, but a party to the IPR petitions filed with the U.S. Patent and Trademark Office. Such agreement provides such utility and its affiliates with a non-exclusive license to certain Company patents related to the Company's two-part SEA® process for use in connection with a certain designated coal-fired power plant operated by them. Such agreement includes a one-time license fee and provides the Company with the right to be included in such party's bidding process for certain product supply for mercury emissions capture at such party's designated power plant. Such party has agreed to withdraw from IPR petitions.

As a result of the agreements described above, the Company and several defendants have resolved their respective claims, and those defendants have been dismissed from the applicable actions. There remain three utilities in the consolidated Iowa actions.

As described above, between January and July 2025, certain defendants in the consolidated Iowa actions filed IPR petitions seeking to invalidate various asserted claims. In September and October 2025, the U.S. Patent Trial and Appeal Board ("PTAB") granted the institution of the review of certain of the Company's asserted patents. On October 13, 2025, the Court in the consolidated Iowa actions ruled to stay the litigation pending completion of the IPR process in the PTAB. No assurance can be given as to the ultimate outcome of these proceedings.

Results of Operations

Year Ended December 31, 2024 compared with Year Ended December 31, 2023

Revenues

We generated revenues of approximately \$17,406,000 and \$17,625,000 (as restated) for the years ended December 31, 2024 and 2023, respectively. Such revenues were primarily derived from sorbent product sales which were approximately \$14,482,000 and \$17,093,000 for the years ended December 31, 2024 and 2023, respectively. Revenues can be dependent on natural gas prices, extreme weather, and the maintenance and downtime requirements of customer plants. The decrease in revenues from the prior year was primarily due to the mix of plants running in 2024 resulting in decreased product revenues for 2024 compared to the prior year, offset by an increase in licensing revenues for 2024 compared to 2023.

Licensing revenues were approximately \$2,808,000 and \$388,000 (as restated) for the years ended 2024 and 2023, respectively. Such increase was primarily due to a new licensing agreement which was entered into in 2024 with a utility.

Equipment sales and other revenues for the years ended December 31, 2024 and 2023 were approximately \$116,000 and \$145,000, respectively. This decrease was primarily due to a decrease in demonstrations and consulting revenues offset by an increase in equipment sales revenues in 2024 compared to 2023.

Cost of Sales

Cost of sales were approximately \$10,305,000 and \$12,172,000 for the years ended December 31, 2024 and 2023, respectively. The decrease in cost of sales of approximately \$1,867,000 was primarily attributable to decreased product sales in 2024 compared to the prior year, together with a decrease in the Company's cost of carbon in 2024 compared to 2023.

Gross Profit

Gross profit was approximately \$7,101,000 and \$5,453,000 (as restated) for the years ended December 31, 2024 and 2023, respectively. This increase in gross profit of approximately \$1,648,000 was primarily due to higher licensing revenues in 2024 compared to 2023, which typically carry higher margins than product sales, thus contributing to the overall improvement in gross profit.

Operating Expenses

Operating expenses consisted of selling, general and administrative expenses ("SG&A") and an impairment loss of \$43,000 in 2024 and SG&A and an impairment loss of approximately \$220,000 in 2023. SG&A expenses were approximately \$14,216,000 and \$14,207,000 for the years ended December 31, 2024 and 2023, respectively. Although total SG&A expenses were largely unchanged in 2024 compared to the prior year, there were significant variances in individual categories. Increases in salaries and wages, including bonus compensation and engagement of new senior personnel, increases in our Board of Directors fees and increased stock-based compensation, were largely offset by reduced professional fees in 2024 compared to 2023. The decrease in professional fees was mainly due to two settlement agreements reached in the fourth quarter of 2023 with various defendants in our patent litigation. These agreements led to significant legal fees paid in 2023 to the patent litigation firm handling the cases, with no comparable expenses incurred in 2024.

Operating Loss

Our operating loss was approximately \$7,158,000 and \$8,973,000 (as restated) for the years ended December 31, 2024 and 2023, respectively. Such decrease in operating loss was primarily due to our increased gross profit in 2024 compared to 2023 coupled with total operating expenses remaining relatively unchanged from year to year.

Other Income (Expense)

During the years ended December 31, 2024 and 2023, we had income from legal claims of \$0 and approximately \$27,608,000, respectively. The income from legal claims in 2023 consisted of two settlement agreements reached in the fourth quarter of 2023 with various defendants in our patent litigation.

Interest expense related to the financing of capital was approximately \$267,000 and \$1,362,000 for the years ended December 31, 2024 and 2023, respectively. The approximate breakdown of interest expense for the years ended December 31, 2024 and 2023 is as follows:

	Year Ended December 31,	
	2024	2023
Interest expense on notes payable	\$ 4,000	\$ 24,000
Other interest expense	21,000	2,000
Amortization of discount of notes payable	242,000	1,336,000
	\$ 267,000	\$ 1,362,000

Loss on change in fair value of profit share liability were approximately \$3,959,000 and \$11,210,000 for the years ended December 31, 2024 and 2023, respectively. The change is primarily attributed to the modification of the terms of the profit share liability (see Note 8 to the consolidated financial statements for the year ended December 31, 2024).

Net Income (Loss)

For the year ended December 31, 2024, we had a net loss of approximately \$10,802,000 compared to net income of approximately \$5,668,000 (as restated) for the year ended December 31, 2023. Such change was primarily due to no income from legal claims in 2024 compared to \$27,608,000 in 2023, offset by an increase in gross profit in 2024 compared to 2023, and a decrease in the loss on change in fair value of profit share recognized in 2024 compared to 2023.

Six Months Ended June 30, 2025 compared with Six Months Ended June 30, 2024

Revenues

We generated revenues of approximately \$6,475,000 and \$6,603,000 for the six months ended June 30, 2025 and 2024, respectively. Such revenues were primarily derived from sorbent product sales which were approximately \$5,921,000 and \$6,387,000 for the six months ended June 30, 2025 and 2024, respectively. Revenues can be dependent on natural gas prices, extreme weather, and the maintenance and downtime requirements of customer plants. The decrease in revenues from the prior year was primarily due to the mix of plants running, unexpected customer forced outages and products sold in the first six months of 2025 resulting in decreased product revenues for the six months ended June 30, 2025 compared to the prior year period. This decrease was offset by an increase in licensing revenues for the six months ended June 30, 2025 compared to June 30, 2024.

Licensing revenues were approximately \$525,000 and \$141,000 for the six months ended June 30, 2025 and 2024, respectively. Such increase was primarily due to a new licensing agreement which was entered into during the three months ended March 31, 2025 with a utility.

Equipment sales and other revenues were approximately \$28,000 and \$76,000 for the six months ended June 30, 2025 and 2024, respectively. Other revenues were comparable for the periods ended June 30, 2025 and 2024.

Cost of Sales

Cost of sales were approximately \$4,272,000 and \$4,414,000 for the six months ended June 30, 2025 and 2024, respectively. This decrease in cost of sales of approximately \$142,000 for the six months ended June 30, 2025 was primarily attributable to decreased product sales in the first six months of 2025 compared to the prior year period, together with a change in the mix of products sold in the first six months of 2025 compared to the first six months of 2024.

Gross Profit

Gross profit was approximately \$2,202,000 and \$2,189,000 for the six months ended June 30, 2025 and 2024. The increase in gross profit for the six months ended June 30, 2025 was primarily due to higher licensing revenues in 2025 compared to 2024, which typically carry higher margins than product sales, thus contributing to the overall improvement in gross profit.

Operating Expenses

Operating expenses consisted of SG&A and research and development expenses (“R&D”) in 2025 and SG&A and in 2024. Operating expenses decreased significantly in 2025 compared to 2024, despite incurring costs related to the development of the Company’s water treatment business. SG&A expenses were approximately \$3,869,000 and \$8,161,000 for the six months ended June 30, 2025 and 2024, respectively. Total SG&A expenses decreased in the first six months of 2025 compared to the prior year period, as a result of variances in individual categories. Decreases in salaries and wages, and professional fees were partially offset by increases in consulting fees. The decrease in salaries and wages was primarily due to the payment of bonus compensation in the first six months of 2024 for which there were no comparable expenses in the first six months of 2025, along with greater stock-based compensation in the first six months of 2024 compared to the comparable period in 2025. The decrease in professional fees was primarily due to lower legal fees in the first six months of 2025 in connection with the Company’s patent litigation compared to the prior year period which had greater legal fees due to trial preparation and the jury trial in the U.S. District Court for the District of Delaware.

Total R&D expenses were approximately \$862,000 and \$0 for the six months ended June 30, 2025 and 2024, respectively. R&D expenses relate to research conducted to develop water treatment products utilizing new sorbent technologies, and increased in the first six months of 2025 compared to the prior year period as the Company had not incurred any research related costs during the first six months of 2024. The Company began incurring research and development costs when the lab equipment at the Company's labs was placed into service.

Operating Loss

Operating loss decreased significantly in 2025 compared to 2024. Our operating loss was approximately \$2,528,000 and \$5,972,000 for the six months ended June 30, 2025 and 2024, respectively. Such decrease in operating loss was primarily due to our increased license fee revenue in 2025 compared to 2024 coupled with a decrease in total operating expenses during the first six months of 2025 as discussed above.

Other Income (Expense)

Interest expense related to the financing of capital was approximately \$54 and \$252,000 for the six months ended June 30, 2025 and 2024, respectively. The approximate breakdown of interest expense for the six months ended June 30, 2025 and 2024 is as follows:

	Six Months Ended June 30,	
	2025	2024
Interest expense on notes payable	\$ —	\$ 4
Amortization of discount of notes payable	—	242
Other interest	—	6
	<hr/>	<hr/>
	\$ —	\$ 252

Loss on change in fair value of profit share liability and unsecured note was approximately \$729,000 and \$2,955,000 for the six months ended June 30, 2025 and 2024, respectively. The change is primarily attributed to the modification of the terms of the profit share liability (see Note 7 to the unaudited condensed consolidated financial statements for the three and six months ended June 30, 2025).

Net Income (Loss)

Net loss decreased significantly in 2025 compared to 2024. For the six months ended June 30, 2025, we had a net loss of approximately \$3,221,000 compared to a net loss of approximately \$9,002,000 for the six months ended June 30, 2024. Such change was primarily due an increase in license fee revenues in 2025 compared to 2024, and a decrease in SG&A.

Liquidity and Capital Resources

We had approximately \$1,454,000 in cash on our balance sheet at June 30, 2025 compared to approximately \$3,456,000 at December 31, 2024. Total current assets were approximately \$4,572,000 and total current liabilities were approximately \$10,284,000 at June 30, 2025, resulting in a working capital deficiency of approximately \$5,712,000. This compares to total current assets of approximately \$6,099,000 and total current liabilities of approximately \$8,806,000 at December 31, 2024, resulting in a working capital deficiency of approximately \$2,707,000. Our accumulated deficit was approximately \$76.0 million at June 30, 2025 compared to \$72.8 million at December 31, 2024. Additionally, we had a net loss in the amount of approximately \$3,221,000 and cash used in operating activities of approximately \$1,986,000 for the six months ended June 30, 2025.

Based on the Company's current cash levels and burn rate, discussed above, we believe our cash and financial resources may be insufficient to meet our anticipated needs for the twelve months following the date of issuance of the financial statements for the quarterly period ended June 30, 2025, included elsewhere in this prospectus, which raises substantial doubt about our ability to continue as a going concern within one year from the issuance date of the financial statements.

In addition to maintaining the revenue stream from our legacy mercury emissions control business, our plans and expectations over the next twelve months to mitigate such financial condition include receiving additional cash inflows from the judgment expected in connection with the \$57.1 million jury verdict awarded to us in March 2024, additional licensing revenues and product sales from the other patent litigation recently commenced, and revenues from our entry into the water treatment business. During 2024, we opened two new state of the art laboratories and have added personnel to support our entry into the water business which we believe will lead to a vibrant new revenue stream. In addition, management is exploring additional financing opportunities. While management believes these plans will alleviate substantial doubt, there is no assurance that they will be successfully realized or implemented.

Total Assets

Total assets were approximately \$10,261,000 at December 31, 2024 versus approximately \$28,311,000 (as restated) at December 31, 2023. The change in total assets is primarily attributable to an approximate \$17,484,000 decrease in cash and an approximate \$1,253,000 decrease in accounts receivable, offset by an increase in property and equipment.

Total assets were approximately \$8,574,000 at June 30, 2025 versus approximately \$10,261,000 at December 31, 2024. The change in total assets is primarily attributable to an approximate \$2,002,000 decrease in cash, offset by an approximate \$337,000 increase in accounts receivable.

Total Liabilities

Total liabilities were approximately \$9,069,000 at December 31, 2024 versus approximately \$28,250,000 at December 31, 2023. The decrease is primarily attributable to a decrease in outstanding debt as a result of the modification of the terms of the profit share liability, the repayment of the secured note and the repayment of the unsecured note.

Total liabilities were approximately \$10,523,000 at June 30, 2025 versus approximately \$9,069,000 at December 31, 2024. The increase is primarily attributable to an increase in accounts payable and accrued liabilities and an increase in the fair value of the non-recourse profit share liability.

Operating Activities

Net cash (used in) provided by operating activities consists of net income (loss), adjusted by certain non-cash items, and changes in operating assets and liabilities.

Net cash used in operating activities was approximately \$4,105,000 for the year ended December 31, 2024 compared to net cash provided by operating activities of approximately \$19,226,000 for the year ended December 31, 2023. The increase in net cash provided by operating activities was primarily due to the following: (i) a net loss of \$10.5 million in 2024 compared to net income of \$5.9 million in 2023; (ii) loss on change in fair value of profit share of \$4.0 million in 2024 compared to \$11.2 million in 2023; and (iii) certain other changes in operating assets and liabilities including accounts receivable, inventory, prepaid expenses and other assets, accrued salaries, and accounts payable and accrued liabilities.

Net cash used by operating activities was approximately \$1,986,000 for the six months ended June 30, 2025 compared to net cash used by operating activities of approximately \$3,123,000 for the six months ended June 30, 2024. The decrease in net cash provided by operating activities was primarily due to the following: (i) a net loss of \$3.2 million for the six months ended June 30, 2025 compared to net loss of \$9.0 million for the six months ended June 30, 2024; and (ii) certain other changes in operating assets and liabilities including accounts receivable, inventory, prepaid expenses and other assets, accrued salaries, and accounts payable and accrued liabilities.

Investing Activities

We had net cash used in investing activities of approximately \$809,000 for the year ended December 31, 2024 for the purchase of a truck and lab equipment compared to no cash used in investing activities for the year ended December 31, 2023.

We Company had net cash used in investing activities of approximately \$16,000 for the six months ended June 30, 2025 for the purchase of lab equipment compared to net cash used in investing activities of approximately \$66,000 for the six months ended June 30, 2024. During the six months ended June 30, 2024, we paid \$66,274 to purchase a truck.

Financing Activities

Net cash used in financing activities was approximately \$12,569,000 for the year ended December 31, 2024 compared to approximately \$210,000 provided by financing activities for the year ended December 31, 2023. During the year ended December 31, 2024, we repaid the remaining principal of approximately \$272,000 on the AC Midwest secured note and approximately \$12,315,000 of the principal remaining on the AC Midwest unsecured note. During the years ended December 31, 2024 and 2023, we received approximately \$17,500 and \$210,000, respectively, from the exercise of stock options.

Net cash used in financing activities was approximately \$0 for the six months ended June 30, 2025 compared to approximately \$9,312,000 used in financing activities for the six months ended June 30, 2024. During the six months ended June 30, 2024, we repaid the remaining principal of approximately \$272,000 on the AC Midwest secured note and approximately \$9,040,000 of the principal remaining on the AC Midwest unsecured note.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial conditions and results of operation are based upon the accompanying consolidated financial statements which have been prepared in accordance with the generally accepted accounting principles in the U.S. The preparation of the consolidated financial statements requires that we make estimates and assumptions that affect the amounts reported in assets, liabilities, revenues, and expenses. We use estimates in accounting for, among other items, profit share liability, revenue recognition, allowance for credit losses, stock-based compensation, income tax provisions, excess and obsolete inventory reserve and impairment of intellectual property. We base these estimates on various assumptions and experience that we believe to be reasonable. The following critical accounting policies are those that are important to the presentation of our financial condition and results of operations. These policies require management's most difficult, complex, or subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain.

The following critical accounting policies affect our more significant estimates used in the preparation of our consolidated financial statements. In particular, our most critical accounting policies relate to the recognition of revenue, and the valuation of our stock-based compensation.

Property and Equipment

Property and equipment are stated at cost. When retired or otherwise disposed, the related carrying value and accumulated depreciation are removed from the respective accounts and the net difference less any amount realized from disposition, is reflected in earnings. For consolidated financial statement purposes, equipment is recorded at cost and depreciated using the straight-line method over their estimated useful lives of 2 to 5 years. Leasehold improvements are recorded at cost and depreciated using the straight-line method over the life of the lease.

Expenditures for repairs and maintenance which do not materially extend the useful lives of property and equipment are charged to operations. Management reviews the carrying value of our property and equipment for impairment on an annual basis.

Intellectual Property

Intellectual property is recorded at cost and amortized over its estimated useful life of 15 years. Management reviews intellectual property for impairment when events or changes in circumstances indicate the carrying amount of an asset or asset group may not be recoverable. In the event that impairment indicators exist, a further analysis is performed and if the sum of the expected undiscounted future cash flows resulting from the use of the asset or asset group is less than the carrying amount of the asset or asset group, an impairment loss equal to the excess of the asset or asset group's carrying value over its fair value is recorded. Management considers historical experience and all available information at the time the estimates of future cash flows are made, however, the actual cash values that could be realized may differ from those that are estimated.

Recoverability of Long-Lived and Intangible Assets

Long-lived assets and certain identifiable intangibles held and used by us are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Events relating to recoverability may include significant unfavorable changes in business conditions, recurring losses or a forecasted inability to achieve break-even operating results over an extended period. We evaluate the recoverability of long-lived assets based upon forecasted undiscounted cash flows. Should impairment in value be indicated, the carrying value of the long-lived and/or intangible assets would be adjusted, based on estimates of future undiscounted cash flows.

The Company has evaluated the recoverability of the carrying value of the Company's property and equipment, right of use asset, and intellectual property. After completing the assessment of property and equipment for impairment as of December 31, 2024 and 2023, the Company recorded an impairment expense related to property and equipment of \$43,000 (2023 - \$219,707) which is included in Impairment loss in the Company's consolidated statements of operations. The expense was primarily related to the impairment of construction in process costs where management determined that the undiscounted future cash flows were not sufficient to recover the carrying value of these assets over the estimated useful life. No impairment charges were recognized for the three and six months ended June 30, 2025.

Stock-Based Compensation

We account for stock-based compensation awards in accordance with the provisions of ASC 718, Compensation-Stock Compensation, which requires equity-based compensation, be reflected in the consolidated financial statements over the period of service which is typically the vesting period based on the estimated fair value of the awards.

Fair Value of Financial Instruments

The fair value hierarchy has three levels based on the inputs used to determine fair value, which are as follows:

- Level 1 - Unadjusted quoted prices available in active markets for the identical assets or liabilities at the measurement date.
- Level 2 - Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability.
- Level 3 - Unobservable inputs that cannot be corroborated by observable market data and reflect the use of significant management judgment. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions.

The fair value hierarchy requires the use of observable market data when available. In instances where the inputs used to measure fair value fall into different levels of the fair value hierarchy, the fair value measurement has been determined based on the lowest level input significant to the fair value measurement in its entirety. Our assessment of the significance of a particular item to the fair value measurement in its entirety requires judgment, including the consideration of inputs specific to the asset or liability.

Revenue Recognition

We record revenue in accordance with ASC 606, Revenue from Contracts with Customers. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve that core principle, an entity should apply the following steps:

- Step 1: Identify the contract(s) with a customer.
- Step 2: Identify the performance obligations in the contract.
- Step 3: Determine the transaction price.
- Step 4: Allocate the transaction price to the performance obligations in the contract.
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

Revenue is recognized when we satisfy our performance obligation under the contract by transferring the promised product to its customer that obtains control of the product. A performance obligation is a promise in a contract to transfer a distinct product to a customer. Most of our contracts have a single performance obligation, as the promise to transfer products or services is not separately identifiable from other promises in the contract and, therefore, not distinct.

Revenue is measured as the amount of consideration we expect to receive in exchange for transferring products. As such, revenue is recorded net of returns, allowances, customer discounts, and incentives. Sales and other taxes are excluded from revenues. Invoiced shipping and handling costs are included in revenue.

Disaggregation of Revenue

We generated revenue for the years ended December 31, 2024 and 2023, and the six months ended June 30, 2025 by (i) delivering product to our commercial customers, (ii) completing and commissioning equipment projects at commercial customer sites, (iii) performing demonstrations of our technology at customers with the intent of entering into long term supply agreements based on the performance of our products during the demonstrations and (iv) licensing our technology to customers.

Revenue for product sales is recognized at the point of time in which the customer obtains control of the product, at the time title passes to the customer upon shipment or delivery of the product based on the applicable shipping terms.

Licensing revenue includes the licensing of the Company's intellectual property ("IP"). Revenue for IP rights is accounted for based on the nature of the promise to grant the license. In determining whether our promise is to provide a right to access our IP or a right to use our IP, we consider the nature of our IP to which the customer will have rights. IP is either functional IP which has significant standalone functionality or symbolic IP which does not have significant standalone functionality. Revenue from functional IP is recognized at the point in time when control of the distinct license is transferred to the customer. Revenue from symbolic IP is recognized over the access period to our IP.

The licenses provide the customer with the right to use our patented technologies as they exist at a point in time when the license is granted, for the duration of the contract term. The patented technology has stand-alone functionality, and we have no obligation to provide any future updates. During the year ended December 31, 2024 the Company recognized \$2,773,750 (2023 - \$356,250) of revenue for licenses for which revenue was recognized at a point in time and \$34,375 (2023 - \$31,250) for licenses for which revenue was recognized over time. During the three and six months ended June 30, 2025 and 2024, the Company recognized \$0 and \$525,000, respectively (2024 - \$0 and \$140,625, respectively) of revenue for licenses for which revenue was recognized at a point in time and \$0 (2024 - \$0) for licenses for which revenue was recognized over time.

When a license arrangement contains payment terms beyond one year, a significant financing component may exist. The significant financing component is calculated as the difference between the stated value and present value of the license fees and is recognized as interest income over the payment period.

Variable consideration is recorded as revenue only to the extent that a significant reversal of cumulative revenue recognized is not probable of occurring when the uncertainty associated with the variable consideration is subsequently resolved. Significant judgment is required in estimating variable consideration for the performance obligation identified in the contract and this judgment involves assessing factors outside of our influence.

Revenue for equipment sales is recognized upon commissioning and customer acceptance of the installed equipment per the terms of the purchase contract.

Revenue for demonstrations and consulting services is recognized when performance obligations contained in the contract have been completed, typically the completion of necessary field work and the delivery of any required analysis per the terms of the agreement.

Income Taxes

We follow the asset and liability method of accounting for income taxes under FASB ASC 740, "Income Taxes." Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that included the enactment date. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

FASB ASC 740 prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more likely than not to be sustained upon examination by taxing authorities. There were no unrecognized tax benefits as of December 31, 2024 and 2023, and June 30, 2025. We are currently not aware of any issues under review that could result in significant payments, accruals or material deviation from our position. We are no longer subject to tax examinations by tax authorities for years prior to 2020.

We may be subject to potential examination by federal, state, and city taxing authorities in the areas of income taxes. These potential examinations may include questioning the timing and amount of deductions, the nexus of income among various tax jurisdictions, and compliance with federal, state, and city tax laws. Our management does not expect that the total amount of unrecognized tax benefits will materially change over the next twelve months.

In December 2023, the FASB issued ASU 2023-09, *Improvements to Income Tax Disclosures*, which requires disaggregated information about our effective tax rate reconciliation as well as information on income taxes paid. The guidance will first be effective in our annual disclosures for the year ending December 31, 2025, and should be applied on a prospective basis with the option to apply retrospectively. Early adoption is permitted. The Company is in the process of assessing the impact of ASU 2023-09 on our disclosures.

Recently Issued Accounting Standards

Recently issued, but not yet effective accounting pronouncements, that when adopted, may have a material effect on the accompanying consolidated financial statements are as follows:

Issued in June 2021, FASB Accounting Standards Update (ASU) No. 2016-13, *Measurement of Credit Losses on Financial Instruments* adds to U.S. GAAP an impairment model known as the current expected credit loss (CECL) model, which is based on expected losses rather than incurred losses. This guidance is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early application of the amendments is permitted. Effective January 1, 2023, the Company adopted ASU No. 2016-13. The adoption of ASU No. 2016-13 did not have a material effect on the accompanying consolidated financial statements.

In November 2023, the FASB issued ASU No. 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which amends and enhances the disclosure requirements for reportable segments. All disclosure requirements under this standard will also be required for public entities with a single reportable segment. The new standard will be effective for the Company for fiscal years beginning after December 15, 2023, including interim periods within fiscal years beginning after December 15, 2024. The Company adopted ASU 2023-07 effective for its Annual Report on Form 10-K for the year ended December 31, 2024 and subsequent interim periods. Since ASU 2023-07 addresses only disclosures, the adoption of ASU 2023-07 did not have a significant impact on our consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which is intended to provide enhancements to annual income tax disclosures. The standard will require more detailed information in the rate reconciliation table and for income taxes paid, among other enhancements. The standard is effective for years beginning after December 15, 2024 and early adoption is permitted. The Company is evaluating this standard to determine if adoption will have a material impact on the Company's consolidated financial statements.

In November 2024, the FASB issued ASU No. 2024-03, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses*. This ASU requires entities to disaggregate expense items in the notes to the financial statements and requires disclosure of specified information related to purchases of inventory, employee compensation, depreciation, and intangible asset amortization. The amendments in this ASU are effective for annual periods beginning after December 15, 2026, and interim periods beginning after December 15, 2027. Companies have the option to apply the guidance either on a retrospective or prospective basis, and early adoption is permitted. The Company is currently evaluating the impact of the ASU on its consolidated financial statements and related disclosures. In January 2025, the FASB issued ASU No. 2025-01, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Clarifying the Effective Date*. This ASU amends the effective date of ASU No. 2024-03 to clarify that all public business entities are required to adopt the guidance in annual reporting periods beginning after December 15, 2026, and interim periods within annual reporting periods beginning after December 15, 2027. Early adoption of ASU No. 2024-03 is permitted.

Non-GAAP Financial Measures

Adjusted EBITDA

To supplement our consolidated financial statements presented in accordance with GAAP and to provide investors with additional information regarding our financial results, we consider and are including herein Adjusted EBITDA, a Non-GAAP financial measure. We view Adjusted EBITDA as an operating performance measure and, as such, we believe that the GAAP financial measure most directly comparable to it is net income (loss). We define Adjusted EBITDA as net income adjusted for interest and financing fees, income taxes, depreciation, amortization, stock-based compensation, and other non-cash income and expenses. We believe that Adjusted EBITDA provides us an important measure of operating performance because it allows management, investors, debtholders and others to evaluate and compare ongoing operating results from period to period by removing the impact of our asset base, any asset disposals or impairments, stock based compensation and other non-cash income and expense items associated with our reliance on issuing equity-linked debt securities to fund our working capital.

Our use of Adjusted EBITDA has limitations as an analytical tool, and this measure should not be considered in isolation or as a substitute for an analysis of our results as reported under GAAP, as the excluded items may have significant effects on our operating results and financial condition. Additionally, our measure of Adjusted EBITDA may differ from other companies' measure of Adjusted EBITDA. When evaluating our performance, Adjusted EBITDA should be considered with other financial performance measures, including various cash flow metrics, net income and other GAAP results. In the future, we may disclose different non-GAAP financial measures in order to help our investors and others more meaningfully evaluate and compare our future results of operations to our previously reported results of operations.

The following table shows our reconciliation of net income (loss) to adjusted EBITDA for the years ended December 31, 2024 and 2023, respectively:

	For the Year Ended	
	December 31, 2024	2023 (as restated)
	(In thousands)	(In thousands)
Net income (loss)	\$ (10,802)	\$ 5,668
Non-GAAP adjustments:		
Depreciation and amortization	248	259
Interest	267	1,362
Change in fair value of profit share	3,959	11,210
Impairment of property and equipment	43	220
Income Taxes	(289)	473
Stock based compensation	1,089	520
Adjusted EBITDA	\$ (5,485)	\$ 19,712

The following table shows our reconciliation of net income (loss) to adjusted EBITDA for the three and six months ended June 30, 2025 and 2024, respectively:

	For the Three Months Ended		For the Six Months Ended	
	June 30, 2025	June 30, 2024	June 30, 2025	June 30, 2024
	(In thousands)	(In thousands)	(In thousands)	(In thousands)
Net income (loss)	\$ (1,542)	\$ (6,147)	\$ (3,221)	\$ (9,002)
Non-GAAP adjustments:				
Depreciation and amortization	105	58	176	120
Interest	-	6	-	252
Change in fair value of profit share	-	-	(299)	-
Impairment of property and equipment	377	2,690	729	2,955
Income Taxes	-	-	-	-
Stock based compensation	20	137	80	907
Adjusted EBITDA	\$ (1,040)	\$ (3,256)	\$ (2,236)	\$ (4,768)

General

We are a provider of specialty activated carbon technologies, delivering innovative solutions for air and water purification. We provide patented and proprietary technologies for mercury emissions capture to the coal-fired utility sector, and are developing disruptive water purification technologies with a specialization on forever chemicals such as PFAS and PFOS.

Products and Services**Mercury Emissions**

We provide mercury capture solutions for coal-fired power plants driven by our patented two-part SEA® process using a powerful combination of science and engineering. Our leading-edge services have been shown to achieve mercury emissions removal at a significantly lower cost and with less operational impact to coal-fired power plants than other used methods, while maintaining and/or increasing power plant output and preserving the marketability of byproducts for beneficial use. We design systems and materials tailored and formulated specifically to each customer's coal-fired units. North America is currently the largest market for our emissions technologies. The market for mercury removal from power plant emissions in the United States have largely been driven by federal regulations. The MATS rule, proposed by the EPA in May 2011 and which became effective in April 2012, is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Our mercury removal technologies and systems achieve mercury removal levels which meet or exceed the MATS requirements with lower cost and plant systems impacts than typical PAC or BAC sorbent injection systems. Our products have been shown to be successful across a myriad of fuel and system types, tunable to any configuration, and environmentally friendly, allowing for the recycling of fly ash for beneficial use.

Our SEA® technology provides total mercury control with solutions that are based on a thorough scientific understanding of actual and probable interactions involved in mercury capture in coal-fired flue gas. A complete understanding of the complexity of mercury-sorbent-flue gas interactions and chemisorption mechanisms allows for optimal control strategy and product formulation, resulting in effective mercury capture. Combined with a thorough proprietary audit of the plant and its configuration and instrumentation, we believe our complete science and engineering approach for mercury-sorbent-flue gas interactions are well-understood, highly predictive, and critical to delivering total mercury control.

We believe that a significant percentage of coal-fired power plants in the United States have adopted and are infringing upon our two-part Sorbent Enhancement Additive (SEA®) process for mercury removal from coal-fired power plants.

Beginning in 2019, we began to actively enforce our patent rights against unauthorized use of our patented technologies, and have since initiated patent litigation in various jurisdictions against multiple infringers, claiming infringement of our patents related to our two-part process for mercury removal from coal-fired power plants. We view such litigation as a last resort. Our goal and overall strategy is to convert infringers to our supply chain of sorbent products for mercury removal, or otherwise license our patents to them on a non-exclusive basis in connection with their respective coal-fired power plants.

Water Treatment

In April 2024, the EPA under the Biden Administration issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as "forever chemicals". The Rule established legally enforceable MCLs for six PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs, and PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. Under the Rule, public water systems must monitor these PFAS and must complete initial monitoring by 2027, followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.

In April 2024, we announced the introduction of our new water treatment business to address the growing potable (drinking) water market with next-generation sorbent technologies. These new solutions are being designed to use significantly less activated carbon, offering a more environmentally sustainable approach to water treatment while maintaining or improving contaminant removal performance. Our products target not only compliance with emerging PFAS regulations, but also broader opportunities in water quality improvement positioning us to serve a large and expanding market.

As part of this strategic pivot, we have invested in the commissioning of two state-of-the-art laboratory facilities—one in Pennsylvania and one in North Dakota—referred to as our “Design Centers.” The Design Centers are dedicated sites for water treatment innovation and development. Together, we believe these facilities represent the only known facilities that have integrated capability in North America to thermally reactivate spent GAC under controlled conditions and subsequently conduct RSSCTs to directly compare reactivated GAC performance against virgin carbon counterpart. This combination allows us to evaluate reactivated GAC as a sustainable and cost-effective alternative to virgin carbon and address key water utility questions including how to optimize media changeout schedules, strategies to reduce operational costs, and provide lab-based validation of treatment performance for PFAS and other contaminants.

These Design Centers will also function as a direct resource for the water treatment industry, offering thermal reactivation, contaminant analysis, and carbon performance evaluations. By enabling municipal and industrial utilities to lower compliance costs and improve operational efficiency, we expect to build strong technical credibility and customer engagement ahead of large-scale market adoption. Importantly, we believe our technology platform is not solely dependent on PFAS regulations as market demand for improved water treatment solutions is broad.

Our investment in our Design Centers also serves as the basis for our planned commercial thermal reactivation plants which we intend to open and operate in the future. Data generated from the Design Centers is being used to define permitting requirements, capital expenditure parameters, and projected operating costs accelerating the commercialization timeline while avoiding costly future reliance on third-party providers.

On May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS. As part of this action, the EPA also announced its intent to extend the PFOA and PFOS MCL compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA (commonly known as GenX), and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

In light of evolving water regulations and funding dynamics, we believe the Company is well positioned to capture a meaningful share in the rapidly growing water treatment sector.

Marketing and Our Growth Strategy

Mercury Emissions

Our marketing efforts have principally focused on the North American market to date, and particularly the United States.

In the U.S. market, our success depends, in part, on the success of demonstrations performed with utility customers and the resulting contract awards to meet the MATS requirements in the long-term period and its operational performance with EGUs under contract.

In Canada, there are the 2000 Canada-wide Standards for Mercury Emissions and the 2006 Canada-wide Standards for Mercury Emissions from Coal-Fired Electric Power Generation Plants among all the provinces which was initially implemented in 2010, with caps in mercury emissions for each of the provinces. We believe that we have the most effective technology for the EGUs and that we maintain a strong patent position for our mercury emissions technologies in Canada.

Our marketing strategy is designed to grow our mercury capture solutions in the North American region by building and maintaining the reputation and trust of our work among its customers - specifically by carrying out successful demonstrations performed with utility customers and the resulting contract awards to meet the MATS requirements in the long-term period and sustaining our operational performance with EGUs under contract - and developing new, and refining our existing, unique emissions technologies. We believe that by offering proven and innovative service offerings, we can attract more customers and partners to our services, creating a network growth effect. We expect that the continuing pursuit of infringers of our patented technologies will yield further licensing and supply agreements.

We believe that these targeted marketing initiatives are the most efficient and cost-effective strategy to sustain the growth of both new and existing customers.

As of June 30, 2025, there were 16 EGUs in the U.S. that use our SEA® technologies and buy product from us.

Other Possible Markets for Our Emissions Technologies

In May 2017, the European Union and seven of its member states ratified the Minamata Convention on Mercury. The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. This Convention was a result of three years of meeting and negotiating, after which the text of the Convention was approved by delegates representing approximately 140 countries in January 2013 in Geneva. As of October 20, 2025, 153 countries have joined the Convention. It is expected that over the next few decades, this international agreement will enhance the reduction of mercury pollution from the targeted activities responsible for the major release of mercury to the environment. Specific emissions limits are being developed by the European Union, although the timing of any enactment of such is uncertain. Any such regulations may lead to additional business opportunities for our mercury control technologies within the European Union although there are no such prospects at the present time.

With regard to business opportunities in China and other Asian countries, there currently exists no specific mandate for mercury capture that requires specific control technology. Nevertheless, we are optimistic of the prospects for mercury emissions regulations in China and Southeast Asia in the coming years.

Water Treatment

Initially, we intend to focus our marketing efforts on municipalities that have limited resources and engineering experience and offer shaped activated carbons (including reactivated GAC), testing and consulting services.

While the initial focus for our water treatment technologies will be on the potable water market, we expect that our technologies will also be valuable for industrial wastewater treatment. Industrial wastewater is the liquid waste generated by industrial activities, including manufacturing, processing, and production facilities. It often contains pollutants such as organic matter, heavy metals, chemicals, oils, and other contaminants that must be treated before being discharged into the environment or reused. We believe our water treatment technologies will be well suited to address industrial wastewater challenges, providing contaminant removal and offering a practical pathway to management treatment costs.

Additional Business Opportunities

We also maintain a license with respect to certain intellectual property owned by Dakin Holdings Ltd. consisting of a proprietary compound of materials engineered to treat a boiler to improve the combustion process and thereby reduce overall emissions, while improving boiler efficiency during the combustion of all types of fuels at power plants (the "Dakin IP"). We believe the Dakin IP can be an effective supplement to our mercury emissions removal business at coal-fired power plants and provide an additional revenue stream utilizing our present infrastructure. However, there can be no assurance that such license will lead to any significant revenues. For additional information, see the section entitled "Certain Relationships and Related Party Transactions".

Industry Background and Governmental Regulations

The market for mercury removal from power plant emissions in the United States have largely been driven by federal regulations.

On December 21, 2011, the EPA announced MATS for power plants in the U.S. The MATS rule is intended to reduce air emissions of heavy metals, including Hg, from all major U.S. power plants burning coal or oil, which are the leading source of non-natural mercury emissions in the U.S. Existing power plants were granted three years (plus a potential one-year extension in cases of hardship, ruled on by state EPAs where the plant is domiciled) from April 16, 2012 to comply with the new emission limits. The MATS rule applies to EGUs that are larger than 25 MW that burn coal or oil for the purpose of generating electricity for sale and distribution through the national electric grid to the public, and includes investor-owned units, as well as units owned by the federal government, municipalities, and cooperatives that provide electricity for commercial, industrial, and residential uses. At the time of MATS being promulgated, there were approximately 1,250 coal-fired EGUs affected by this rule. Many EGUs have since shut down as a result of regulation and competitive disadvantages to newer or gas-fired EGUs and renewable energy sources (e.g. wind, solar). We believe that at June 30, 2025, there were approximately 400 coal-fired EGUs remaining in the power market which make up the large mercury-emissions control market into which we sell.

In April 2023, the EPA issued a proposal to strengthen and update MATS. Such proposal was finalized and published in May 2024 with an effective date of July 8, 2024 which, among other things, strengthens and updates MATS for coal-fired power plants and tightens the emission standard for mercury for existing lignite-fired power plants to a level that is aligned with the mercury standard that other coal-fired power plants have been achieving under MATS.

On March 12, 2025, the newly appointed EPA administrator under the Trump Administration announced plans to roll back dozens of environmental regulations including the reconsideration of the MATS regulation. On April 8, 2025, President Trump signed a Proclamation exempting certain stationary sources, identified in Annex 1 of the Proclamation, from compliance with the 2024 updated MATS Rule. As set out in the Proclamation, the President's exemption lasts for a period of two years beyond the updated Rule's compliance date -- i.e., for the period beginning July 8, 2027, and concluding July 8, 2029. During the two-year period these stationary sources identified in Annex 1 are subject to the compliance obligations that they are currently subject to under MATS as the MATS Rule existed prior to the 2024 update. Annex 1 identifies 47 plant owners and over 60 power plants provided such exemption, which list includes a number of our customers.

In June 2025, the EPA proposed to repeal certain amendments finalized in 2024 to the MATS Rule and return compliance obligations to the MATS standards which existed prior to the 2024 update. The EPA intends to finalize action on this proposal by December 2025.

The final MATS rule identifies two subcategories of coal-fired EGUs, four subcategories of oil-fired EGUs, and a subcategory for units that combust gasified coal or solid oil (integrated gasification combine cycle or "IGCC" units) based on the design, utilization, and/or location of the various types of boilers at different power stations. The rule includes emission standards and/or other requirements for each subcategory. The rule set nationwide emission limits estimated to reduce mercury emissions in coal-fired plants by about 90%.

In addition to the U.S. federal MATS rule, more than 20 states currently have regulations that limit mercury emissions and are similar to or more restrictive than the MATS rule.

There are several choices of pollution control technologies available to reduce mercury emissions, but they do not all work consistently or cost-effectively for every plant design or for all of the various types of coal. The most common technology employed to reduce mercury emissions is a sorbent injection system which provides for the injection of PAC or BAC into the flue-gas of an EGU after the boiler itself but in front of the ESP. Such injections have proven effective with many coals, especially at reduction levels of 70% or less. At required mercury reduction levels above 80%, these injection systems require substantial injection rates which often have severe operational issues including over-loading the ESP and rendering the fly ash unfit for sale to concrete companies, and at times even causing combustion concerns with the fly ash itself.

Mercury is also removed as a co-benefit by special pollution control equipment installed to remove SOX and NOX. To achieve very high levels of SOX reduction, large, complex, and expensive (with capital costs in the hundreds of millions of dollars for a medium-sized EGU) systems called scrubbers can be installed in the plant exhaust system, typically just before the flue-gas goes up the stack for release. As a co-benefit to their primary mission, scrubbers have been shown to remove significant quantities of oxidized mercury. Mercury is typically found in two basic forms in coal: elemental and oxidized. The amount of each form varies in any given seam of coal and is affected by the other natural elements (such as chlorine) which might also be present in the coal. We believe that about 30-40% of the mercury in the post-combustion flue-gas exists in the oxidized state for power plants burning low-rank coal and about 60-70% for power plants burning high-rank coals. Mercury is found in only trace amounts in coal making it difficult to remove from coal or from the flue-gas when combusted with the coal. It is in the burning of millions of tons of coal that these trace amounts become problematic and is why MATS was promulgated.

The other major pollution control system which contributes significantly to the co-benefits of mercury removal is an SCR system which can be installed to achieve high levels of removal of NOX. SCRs are also very large and expensive systems (costing hundreds of millions of dollars in capital costs to install on a medium-size EGU) that are typically installed just after the flue-gas exits from the unit boiler. As a co-benefit, SCRs have been shown to oxidize a considerable percentage of the elemental mercury in many types of coal. If the EGU then has a combination of an SCR and a scrubber, we estimate that the EGU might achieve an over-all reduction of 80-85% of the mercury in power plants that burn high-rank coals. The exact level of mercury emission reductions depends on the designs of these systems, the types of coal being burned and the operations of the power plant.

We believe that a large percentage of the coal-fired EGUs in the U.S. employ some sort of sorbent injection system to achieve the very low mercury emission levels required by the MATS rule, with either the sorbent injection system as the primary removal method or such a system being employed as a supplemental system to SCR/scrubber combinations to achieve the emission limits.

In the United States, potable water treatment is regulated primarily by the EPA under the SDWA. The SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources-rivers, lakes, reservoirs, springs, and ground water wells. (The SDWA does not regulate private wells which serve fewer than 25 individuals.) The SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The SDWA covers water quality standards, treatment processes, and monitoring requirements for public water systems.

The EPA has set MCLs for specific contaminants in drinking water. These include: microbial contaminants like bacteria, viruses, and protozoa (e.g., E. coli, cryptosporidium); inorganic contaminants like lead, arsenic, and nitrates; organic contaminants like pesticides and solvents; radionuclides like radon and uranium; and, disinfectants and disinfection by-products like chlorine and trihalomethanes (THMs). Water systems must treat water to meet these MCLs or achieve a level that minimizes the risk to public health.

In April 2024, the EPA issued the first-ever national, enforceable drinking water standard to protect communities from exposure to harmful PFAS, also known as "forever chemicals". The Rule sets limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as GenX). The Rule also sets a hazard index level for two or more of four PFAS as a mixture: PFNA, PFHxS, HFPO-DA, and PFBS. Under the Rule, public water systems must monitor these PFAS and must complete initial monitoring by 2027, followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027. Public water systems must implement solutions by 2029 that reduce these PFAS if monitoring shows that drinking water levels exceed the MCLs set forth in the Rule. By 2029, public water systems that have PFAS in drinking water which violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.

The EPA has indicated that once implemented, these limits will reduce tens of thousands of PFAS-attributable illnesses or deaths and will reduce PFAS exposure for approximately 100 million Americans served by public drinking water systems.

The EPA has indicated that compliance with this Rule is estimated to cost approximately \$1.5 billion annually. The Infrastructure Investment and Jobs Act has dedicated \$9 billion to help communities impacted by PFAS pollution in drinking water. In addition, another \$12 billion in Infrastructure Investment and Jobs Act funding is available to communities to make general drinking water improvements, including addressing PFAS chemicals. Estimated costs include water system monitoring, communicating with customers, and - if necessary - installing treatment technologies.

On May 14, 2025, the EPA under the new Trump Administration announced the agency will keep the regulations for PFOA and PFOS. As part of this action, EPA also announced its intent to extend the PFOA and PFOS Maximum Contaminant Level compliance deadlines and establish a federal exemption framework. Additionally, the EPA announced its intent to rescind the regulations and reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA (commonly known as GenX), and the Hazard Index mixture of these three PFAS plus PFBS to ensure the determinations and any resulting drinking water regulation follow the Safe Drinking Water Act process.

In addition to the national standards established by the EPA which states are required to implement and enforce, individual states have the authority to impose stricter regulations than those set by the EPA. Many states have already set their own standards for PFAS, often more stringent than federal standards, in response to the growing public health concerns. States also run their own monitoring programs and inspections to ensure compliance with federal and state regulations.

Patents and Trademarks

Our SEA® technology was originally developed by the University of North Dakota's Energy and Environmental Research Center. It was tested and refined on numerous operating coal-fired EGUs, with the founder of our wholly owned subsidiary participating with the Energy and Environmental Research Center on these tests since 2008. The Energy and Environmental Research Center Foundation, a non-profit entity, obtained patents on this technology. Between 2009 and 2017, we maintained an exclusive worldwide license with respect to this patented technology, which applied to various domestic and foreign patents and patent applications. Such formed the basis of our mercury control technology. On April 24, 2017, we acquired from The Energy and Environmental Research Center Foundation all such patent rights, including all patents and patents pending, domestic and foreign, relating to the foregoing technology.

As of June 30, 2025, we had a patent portfolio relating to mercury removal of 33 granted patents worldwide, consisting of 26 U.S. patents and 7 foreign patents (Canada, Germany, European Patent Office and China) with expiration dates ranging from August 2025 to September 2034. Fourteen of these patents expired in August 2025. We continue to maintain a portfolio of patents relating to mercury removal in the U.S. and abroad. In addition, in 2024, we filed 2 provisional patent applications in the U.S. relating to water treatment.

Competition

We operate in highly competitive industries that are characterized by a diverse range of participants, including companies that operate in both the mercury capture and water treatment industries. Our major competitors in the mercury capture and water treatment markets includes companies such as Arq, Inc. (formerly Advanced Emissions Solutions, Inc.), Norit Activated Carbon, Calgon Carbon Corporation, and Nalco Company LLC (also known as Nalco Water, an Ecolab company). Many of our competitors employ larger sales staff and are well established in the market with greater financial and operational resources. However, in most head-to-head tests with competitor products in the mercury capture market, our SEA® technology has consistently performed better in mercury removal, at lower projected costs. We believe that our SEA® technology is superior to offerings of our competitors and, with our highly experienced staff, we have shown that we can compete effectively in this market. In the water treatment market, our competitive strategy will focus on delivering tailored and cost-effective water treatment solutions, innovative technologies, and exceptional customer service to meet the specific needs of our clients. While the industry faces ongoing regulatory and technological advancements, we believe our industry expertise and focus on customer relationships will position us to effectively compete and grow within the water treatment market.

Raw Materials

We buy all the raw materials needed to implement our technologies and provide our formulated products from third-party suppliers. Suppliers of our raw materials include large companies that have provided materials for decades and have an international presence. When we use PAC as one component of our sorbent material, we buy it in the market from large activated carbon manufacturers. We believe that we have excellent relationships with our current suppliers. If any of our suppliers should become unavailable to us for any reason, there are a number of other suppliers that we believe can be contracted with to supply the raw materials that we need. However, the availability and price of those raw materials can be impacted by factors beyond our control including any price increases due to inflation. If such suppliers cannot meet our demand for such raw materials on a timely basis or at acceptable prices or if we are unable to offset any such increases that might occur with price adjustments to our customers, such could have a negative effect on our operations.

Seasonality

Our products and services for mercury capture are connected to the power market. This market has changed over recent years, creating a greater proportional residential load demand. With this shift in demand and load, we have experienced some seasonal changes in billing cycles as our current customer concentration is in the southwestern United States, where many of our customers decrease capacity in such winter months, unless there are abnormally low temperatures during such winter months. The price and availability of natural gas and renewables can also influence the amount of generation provided by coal-fired plants.

In the water treatment market, we expect there will be a greater demand for our products and services in the summer months when higher temperatures lead to more water usage and warmer temperatures tend to promote algae growth and create ideal conditions for bacteria, viruses and parasites to thrive.

Employees

As of June 30, 2025, we had 13 full-time and 6 part-time employees. Our employees are not represented by labor unions. We believe that relations with our employees are good.

Properties

We lease a warehouse in Corsicana, Texas consisting of approximately 20,000 square feet which we use for manufacturing and distribution of our products. As of December 2019, we relocated our corporate headquarters to such location which corporate headquarters prior thereto were maintained in Lewis Center, Ohio. Such lease in Corsicana, Texas expires March 31, 2029.

Since August 2024, we have leased laboratory space in Grand Forks, North Dakota, and since November 2024, we have leased additional laboratory space in State College, Pennsylvania. Each lease has a three-year term, with an option to extend for an additional term of three years. Such laboratories are used for research and development and will be able to offer other services such as carbon activation, thermal reactivation, and regeneration, contaminant analysis and carbon evaluations and recommendations.

Legal Proceedings

We have commenced multiple patent infringement lawsuits to enforce our proprietary two-part SEA® process for mercury removal from coal-fired power plants. These actions, filed between 2019 and 2025, target various operators of coal-fired power plants and refined coal producers whom we allege have willfully infringed our patent rights. We are seeking damages, injunctive relief, and other remedies in each of these proceedings.

Delaware District Court Action

In July 2019, we initiated patent litigation against various defendants in the U.S. District Court for the District of Delaware which included (i) Vistra Energy Corp., AEP Generation Resources Inc., NRG Energy, Inc., Talen Energy Corporation, and certain of their respective affiliated entities, all of which are owners and/or operators of coal-fired power plants in the United States, and (ii) Arthur J. Gallagher & Co., DTE REF Holdings, LLC, CERT Coal Holdings LLC, Chem-Mod LLC, and certain of their respective affiliated entities, and additional named and unnamed defendants, all of which operate or are involved in operations of coal facilities in the United States.

Between July 2020 and January 2021, we entered into agreements with each of the four major utility defendants which included certain monetary arrangements and pursuant to which we dismissed all claims brought against each of them and their affiliates.

In November 2023, we entered into a confidential binding term sheet with Arthur J. Gallagher & Co., and various of its affiliated entities, and DTE Energy Resources LLC and various of its affiliated entities, to resolve the patent litigation. Pursuant to the term sheet, all claims and counterclaims asserted by the parties in such patent litigation have been dismissed with prejudice, although such term sheet does not affect any other claim brought against the remaining CERT defendants. In November 2023, Alistar Enterprises, LLC, one of the remaining CERT defendants, entered into a settlement agreement with us.

In December 2023, and in connection with the term sheet described above, the Company, along with its wholly-owned subsidiary, MES, Inc., and (a) Chem-Mod LLC (“Chem-Mod”), (b) Arthur J. Gallagher & Co. and AJG Coal, LLC, and (c) DTE Energy Co. and DTE Energy Resources, LLC, entered into a paid license of U.S. Patent No. 8,168,147, U.S. Patent No. 10,343,114, U.S. Patent No. 10,589,225, U.S. Patent No. 10,596,517 and U.S. Patent No. 10,668,430 and their foreign equivalents and related patent applications and patents, which licenses the use of refined coal or the Chem-Mod Solution in conjunction with activated carbon. This license applies to Chem-Mod and certain of its licensees, sub-licensees, and their customers, for the remaining term of such patents. By its terms, the license does not cover the use of activated carbon with coal that is not either refined coal or coal made by or for use with the Chem-Mod Solution in a manner authorized by the license. The parties to the license have mutually released all claims that any past use of the Chem-Mod Solution in connection with the production or use of refined coal with activated carbon by entities other than the CERT defendants and their customers infringes the asserted patents and related intellectual property, and all claims that could have been brought challenging the validity of such patents. The remaining CERT defendants and their customers (for activities relating to the CERT defendants) were not included within the scope of the license.

The case proceeded to trial in February 2024 against the remaining CERT defendants. On March 1, 2024, a federal jury returned a \$57.1 million verdict in favor of the Company against the remaining CERT defendants, finding willful infringement of the Company’s patented technologies and holding the defendants liable for inducing and contributory infringement. Such group of affiliated defendants included multiple limited liability companies with refined coal industry operations, including CERT Operations II LLC, CERT Operations IV LLC, CERT Operations V LLC, and CERT Operations RCB LLC. Following the trial, the Court entered non-final judgments on the verdict against the CERT defendants and the parties submitted post-trial motions relating to the jury trial. The CERT defendants also asserted that the Company’s claims were barred due to their defense that they had an implied license to the asserted patents. A bench trial was held on such issue. On June 10, 2025, the Court ruled that the CERT defendants failed to prove that they had such an implied license and denied their motion to alter or amend the non-final judgment. In addition, on September 25, 2025, the Court issued a Memorandum Opinion and Order that denied the CERT defendants’ post-trial motion that they should not be held liable as a matter of law for induced infringement, contributory infringement or willful infringement. We are awaiting the Court’s determination as to the final judgment.

2024-2025 Patent Infringement Actions

In July 2024, we commenced three additional patent infringement lawsuits in U.S. District Courts in Arizona, Iowa and Missouri against multiple utilities and related entities. These actions allege willful infringement of the Company’s patents related to mercury emissions control. Named as defendants in the action filed in the U.S. District Court for the District of Arizona were Tucson Electric Power Co., San Carlos Resources, Inc., Salt River Project Agricultural Improvement and Power District, Tri-State Generation and Transmission Association, Inc., Springerville Unit 3 Holding LLC, and Springerville Unit 3 Partnership LP. Named as defendants in the action filed in the U.S. District Court for the Southern District of Iowa were Berkshire Hathaway Energy Company, MidAmerican Energy Company, PacifiCorp, Alliant Energy Corporation, Interstate Power and Light Company, and Wisconsin Power and Light Company, and named as defendants in the action filed in the U.S. District Court for the Eastern District of Missouri were Ameren Corp. and Union Electric Co.

In October 2024, we entered into an agreement with one of the utility defendants and an affiliated entity in the Arizona action, and in January 2025, we entered into an agreement with another utility named in the Arizona action. Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to the Company's two-part SEA® process for use in connection with a certain designated coal-fired power plant operated by them. The agreements include one-time license fees which have been received by the Company. One agreement provides the Company with a right of first refusal for certain of such utility's product supply for mercury emissions capture at such designated power plant and the other agreement provides the Company with the right to be included in such party's bidding process for certain product supply for mercury emissions capture at such party's designated power plant.

On December 17, 2024, the U.S. Judicial Panel on Multidistrict Litigation ordered the consolidation of the three lawsuits in the U.S. District Court for the Southern District of Iowa for coordinated pretrial proceedings. In January 2025, we initiated an additional infringement suit in the Western District of Missouri against several Evergy-affiliated entities. Named as defendants in the action were Evergy, Inc., Evergy Metro Inc., Evergy Missouri West, Inc. and Evergy Kansas Central, Inc. One of such defendants was dismissed from the Western District of Missouri action and named as a defendant in a separate case commenced in the U.S. District Court for the District of Kansas. Such cases were transferred to the Iowa court pursuant to the existing transfer order.

Between January and July 2025, certain defendants in the consolidated Iowa actions filed IPR petitions with the U.S. Patent and Trademark Office seeking to invalidate various asserted claims.

Effective as of August 5, 2025, we entered into separate agreements with two utilities, which are affiliated with each other, and named as defendants in the Southern District of Iowa action. In addition, as of September 9, 2025, we entered into an agreement with a utility and its affiliated entities, named as defendants in the Western District of Missouri and District of Kansas actions. Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to the Company's two-part SEA® process for use in connection with certain designated coal-fired power plants operated by them. Each agreement includes a one-time license fee. The agreements effective as of August 5, 2025 entered into with the two utilities, provide the Company with the right to be included in each utility's bidding process for certain product supply for mercury emissions capture at such party's operated power plants. Such two utilities have also agreed to withdraw from the IPR petitions.

Effective as of September 30, 2025, we entered into an agreement with another utility not named as a defendant in our patent litigations, but a party to the IPR petitions filed with the U.S. Patent and Trademark Office. Such agreement provides such utility and its affiliates with a non-exclusive license to certain Company patents related to the Company's two-part SEA® process for use in connection with a certain designated coal-fired power plant operated by them. Such agreement includes a one-time license fee and provides the Company with the right to be included in such party's bidding process for certain product supply for mercury emissions capture at such party's designated power plant. Such party has agreed to withdraw from IPR petitions.

As a result of the agreements described above, the Company and several defendants have resolved their respective claims, and those defendants have been dismissed from the applicable actions. There remain three utilities in the consolidated Iowa actions.

As described above, between January and July 2025, certain defendants in the consolidated Iowa actions filed IPR petitions seeking to invalidate various asserted claims. In September and October 2025, the U.S. Patent Trial and Appeal Board (“PTAB”) granted the institution of the review of certain of the Company’s asserted patents. On October 13, 2025, the Court in the consolidated Iowa actions ruled to stay the litigation pending completion of the IPR process in the PTAB. No assurance can be given as to the ultimate outcome of these proceedings.

Other than the foregoing, there are no material pending legal proceedings to which we are a party or to which any of our property is subject, nor are there any such proceedings known to be contemplated by governmental authorities. None of our directors, officers, or affiliates are involved in a proceeding adverse to our business or has a material interest adverse to our business.

Corporate Information

We were originally incorporated on July 19, 1983 in the State of Utah and subsequently domesticated as a Delaware corporation in February 2007. Effective on October 17, 2024, as part of our rebranding, we changed our corporate name from Midwest Energy Emissions Corp. to Birchtech Corp.

Our wholly owned subsidiary, MES, Inc., was originally incorporated in December 2008 in the State of North Dakota. Effective on June 21, 2011, we completed the Merger whereby MES, Inc. (then called Midwest Energy Emissions Corp.) became our wholly owned subsidiary. As a result of the Merger, our business began to focus on the delivery of mercury capture technologies to power plants.

Our mercury emissions business is sometimes referred to and known as “ME₂C”® which is a trademark of the Company.

Our principal place of business is located at 1810 Jester Drive, Corsicana, Texas 75109, which location we have maintained for manufacturing and distribution of our products since 2015. Our telephone number is (614) 505-6115. Our corporate website address is <http://www.birchtech.com>.

We do not incorporate the information on or accessible through our website to be part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

MANAGEMENT

The following table sets forth certain information as of October 20, 2025 about our executive officers and members of our Board of Directors.

Name	Age	Position
Richard MacPherson	70	President, Chief Executive Officer, Secretary and Chairman of the Board of Directors
John Pavlish	66	Senior Vice President and Chief Technology Officer
James Trettel	57	Executive Vice President of Operations
Fiona Fitzmaurice	44	Chief Financial Officer
David M. Kaye	71	Director
Troy Grant	52	Director
Mitzi H. Coogler	55	Director

Executive Officers

Richard MacPherson has been a director of the Company since June 2011 and the Chairman of our Board of Directors since July 2025. Mr. MacPherson has served as President and Chief Executive Officer of the Company since March 2015 and was appointed as Secretary of the Company in June 2023. Mr. MacPherson is the founder of MES, Inc. (current subsidiary and operating company of the Company) and had been its Chief Executive Officer from 2008 until 2011. From 2011 to March 2015, Mr. MacPherson served as Vice President of Business Development of the Company. Since 2008, Mr. MacPherson has worked with industry leading scientists and engineers to bring the Company's technology from the R&D phase, through multiple product development stages, to the final commercialization phase, acting as the lead on all required initiatives and activities. He has been a senior-level executive in the services industry for over 25 years. Mr. MacPherson brings extensive start-up and business development knowledge, applied and proven through his corporate experience throughout the United States and Canada. He has worked in multiple industries, such as electric utilities, communications, and marketing, as well as in several entrepreneurial ventures in the communications, hospitality, geological, and real estate development industries. We believe that Mr. MacPherson's deep experience in business and strong leadership skills, coupled with being the founder of our operating subsidiary and his extensive knowledge of our technology, qualifies him to serve on our Board of Directors.

John Pavlish has been Senior Vice President and Chief Technical Officer of the Company since November 2014. Prior to joining the Company, Mr. Pavlish was a Senior Research Advisor and the Director of the Center for Air Toxic Metals at the Energy & Environmental Research Center in Grand Forks, North Dakota. He has over 25 years of mercury-related experience and is regarded as an international expert on the topic of mercury. His primary areas of interest and expertise include research, technical consultation, and development of mercury control technologies, in particular, for coal combustion and gasification systems. He is an inventor of a number of patented mercury control technologies and has years of experience in development and testing of these technologies for commercial application. Over the last 20 years, he has spent much of his time evaluating the efficacy of a number of different mercury control technologies/approaches and their cost-competitiveness in the commercial market. Mr. Pavlish also has years of power plant experience and has worked for engineering/consulting company Black & Veatch, where he served as Unit Leader/System Engineer. Mr. Pavlish is a professional engineer, a member of the American Society of Mechanical Engineers, and a member of the Air & Waste Management Association. He serves on numerous professional and technical committees and is a U.S. Representative on the Mercury Emissions from Coal International Experts Working Group on Reducing Emissions from Coal and a member of the United Nations Environment Programme Global Mercury Partnership, Reduction of Mercury Releases from Coal Combustion. Mr. Pavlish has published over 200 papers, articles, and reports on various mercury-related topics and issues.

James Trettel has been Vice President of Operations since January 2014 and Executive Vice President of Operations since June 2024. Mr. Trettel possesses over 25 years of experience in the dry bulk material handling industry. During 2012 and 2013, he was the owner and operator of Solid Foundation Services, LLC, a firm specializing in deep foundation installations for the gas and oilfield industry, while providing technical consulting services to the Company. Prior to 2012, he provided project management and engineering duties for numerous multi-million dollar turn-key contracts while employed at Advanced Bulk and Conveying Inc. starting in 2004. Additionally, Mr. Trettel has overseen day to day operations for 14 years as the VP of J&B Industrial Sales Company Inc. of sales, systems, and engineering organization specializing in bulk material handling. Mr. Trettel has extensive field experience with systems operating in a large variety of industry sectors including coal fired utilities. Mr. Trettel graduated Cum Laude with a B.S. degree in Mechanical Engineering.

Fiona Fitzmaurice has been Chief Financial Officer since November 2023. She is a chartered accountant with over 15 years of experience in accounting and financial control for both private and publicly listed companies. She has significant experience as CFO for exploration companies and has been involved in numerous private placements, prospectus filings, flow-through financings and corporate audits. Ms. Fitzmaurice currently serves as CFO of the following companies: Metavista3D Inc. (TSXV:DDD) since November 2024; Exploits Discovery Corp. (CSE:NFLD) since December 2022; Digicann Ventures Inc. (CSE:DCNN) since October 2021; Provenance Gold Corp. (CSE:PAU) since May 2021; and MacDonald Mines Exploration Ltd. (TSXV:BMK) since December 2019. She has also served as Controller of Noront Resources Ltd. (TSXV:NOT) from May 2015 to December 2022; CFO of Honey Badger Exploration Inc. (TSXV:TUF) from December 2019 to November 2020; CFO of Pasofino Gold Limited (TSXV:VEIN) from July 2017 to March 2020; and CFO of Mojave Jane Brands (CSE:JANE) from October 2017 to July 2019. Ms. Fitzmaurice currently holds a chartered certified qualification from ACCA (Association of Chartered Certified Accountants) having received her certification in Ireland in 2008. She holds a bachelor's degree in accounting and finance from Athlone Institute of Technology, Ireland.

Directors

Please see the information regarding *Richard MacPherson* under "Executive Officers" above.

David M. Kaye has been a director of the Company since June 2019 and acted as Secretary from December 2019 to June 2023. Mr. Kaye is an attorney and has been a partner in the law firm of Kaye Cooper Kay & Rosenberg, LLP, located in Roseland, New Jersey, since the firm's inception in February 1996. Since 1980, Mr. Kaye has been a practicing attorney in the New York City metropolitan area specializing in business, corporate, and securities matters. From March 2006 to June 2011, Mr. Kaye was a director of China Youth Media, Inc., resigning from such position effective with the merger between the Company with MES, Inc. which was completed in June 2011. From December 2000 to October 2009, Mr. Kaye also served on the Board of Directors of Dionics, Inc. Mr. Kaye received his B.A. from George Washington University (1976) and his J.D. from the Benjamin N. Cardozo School of Law, Yeshiva University (1979). We believe that Mr. Kaye's deep experience in business and transactional matters and working with public companies qualifies him to serve on our Board of Directors.

Troy Grant has been a director of the Company since May 2023. Mr. Grant, a graduate from St. Francis Xavier University with a Bachelor of Commerce degree, has extensive experience in investment financing, predominantly focusing on raising significant funding across global platforms and management of strategic operations. For the past 10 years, his career has been dedicated to his role as Chief Executive Officer (CEO) with Elcora Advanced Materials Corp. (TSXV: ERA). Elcora was founded in 2011 and has been successfully structured as a vertically integrated battery material company with mining assets in Sri Lanka and Morocco. As CEO, in addition to responsibility for the overall strategic operations, including exploration, business development and implementation of the company vision, Mr. Grant works diligently to raise equity and advance assets. Mr. Grant also currently serves as a director and member of the Audit Committee of several publicly listed companies, including Elcora Advanced Materials Corp., i3 Interactive Inc. (CSE: BETS), Auxly Cannabis Group Inc. (TSX: XLY), and Cleantech Power Corp. (formerly, Alkaline Fuel Cell Power Corp.) (NEO: PWWR). We believe Mr. Grant's deep public company experience in Canada and his strong background in business and investment financing qualifies him to serve on our Board of Directors.

Mitzi H. Coogler has been a director of the Company since December 23 2024. Ms. Coogler is a certified public accountant and has maintained an accounting practice since 2014 in Northport, Alabama specializing in management support and guidance for closely held businesses. Since November 2023, she has been Chief Financial Officer of JT Harrison Construction Co., Inc., located in Northport, Alabama, which provides design, general contracting and construction management services. From November 2017 to December 2021, she served as Chief Executive Officer and a member of the Board of Directors of Southeast Cancer Network, Inc., located in Tuscaloosa, Alabama. From February 2018 to July 2022, she also served as Chief Financial Officer of closely held businesses wholly or majority owned by Dr. Scott Drummond (deceased). From January 2005 to January 2014, she was a shareholder/employee of Echols, Coogler & Associates, P.C., an accounting firm, located in Tuscaloosa, Alabama. Ms. Coogler received her B.S. in accounting from University of Alabama in 1993. We believe Ms. Coogler's extensive financial, accounting and transactional experience qualifies her to serve on our Board of Directors.

Family Relationships

There are no family relationships between any of the directors and executive officers of the Company. There are no family relationships among our directors and executive officers and those of our subsidiaries and affiliated companies.

Involvement in Certain Legal Proceedings

We are not aware of any of our directors or officers being involved in any legal proceedings in the past ten years relating to any matters in bankruptcy, insolvency, criminal proceedings (other than traffic and other minor offenses), or being subject to any of the items set forth under Item 401(f) of Regulation S-K under the Securities Act.

Board of Directors

Our Board of Directors has a stewardship responsibility to supervise the management of and oversee the conduct of the business of the Company, provide leadership and direction to management, evaluate management, set policies appropriate for the business of the Company and approve corporate strategies and goals. The day-to-day management of the business and affairs of the Company is delegated by our Board of Directors to the executive officers of the Company. Our Board of Directors gives direction and guidance through the Chief Executive Officer to management and keeps management informed of its evaluation of the executive officers in achieving and complying with goals and policies established by our Board of Directors.

Our Board of Directors exercises its independent supervision over management by its policies that (a) periodic meetings of our Board of Directors be held to obtain an update on significant corporate activities and plans; and (b) all material transactions of the Company are subject to prior approval of our Board of Directors. To facilitate open and candid discussion among its independent directors, such directors are encouraged to communicate with each other directly to discuss ongoing issues pertaining to the Company.

Composition of Our Board of Directors

Our Board of Directors currently consists of four members and will consist of members on or prior to the closing of this offering. There are no contractual obligations regarding the election of our directors. We do not currently have a standing nominating committee and the functions of identifying, evaluating, and selecting candidates for our Board of Directors are performed by our Board of Directors as a whole. Our Board of Directors will, from time to time, assesses potential candidates to fill perceived needs on our Board of Directors based on required skills, expertise, independence and other factors. In considering whether to nominate any particular candidate for election to our Board of Directors, our Board of Directors uses various criteria to evaluate each candidate, including the candidate's ability to further the interest of the stockholders through their established record of professional accomplishment, the ability to contribute positively to the collaborative culture among members of our Board of Directors, knowledge of our business, understanding of the competitive landscape, professional and personal experiences, and expertise relevant to our growth strategy. Our Board of Directors does not set specific minimum qualifications or assign specific weights to particular criteria and no particular criterion is a prerequisite for a prospective nominee. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal.

Majority Voting Policy

Our Board of Directors, pursuant to the requirements of the TSX, has adopted a Majority Voting Policy. In an uncontested election of directors, any nominee who receives a greater number of votes "withheld" than votes "for" (i.e., the nominee is not elected by at least a majority (50% +1) of the votes cast with respect to his/her election) is required to tender his or her resignation to our Board of Directors promptly following a stockholders meeting. The directors will consider the offer of resignation and, except in exceptional circumstances, will recommend that our Board of Directors accept the resignation. Our Board of Directors will make its decision within 90 days following a stockholders meeting and announce it in a press release, including the reasons for rejecting the resignation, if applicable. The nominee will not participate in any deliberations on the resignation offer. The policy does not apply in circumstances involving contested director elections.

Director Independence

Upon consummation of this offering, we intend for our common stock to be listed on NYSE American and we will follow the rules for director independence set by NYSE American. Presently, our Board of Directors consists of Richard MacPherson, David M. Kaye, Troy Grant and Mitzi H. Coogler. Upon listing on NYSE American, we anticipate that our Board of Directors will consist of Richard MacPherson, David M. Kaye, Troy Grant and Mitzi H. Coogler. We anticipate that Troy Grant and Mitzi H. Coogler will each be viewed as independent within NYSE American rules and the applicable rules and regulations promulgated by the SEC. Under the applicable NYSE American rules, a director will qualify as an “independent director” if the director is not an executive officer or employee, our Board of Directors affirmatively determines that the director does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and the director meets the following qualifications:

- the director has not been employed by us during the previous three years (other than employment as an interim chief executive officer for a period of less than one year);
- neither the director nor an immediate family member has received more than \$120,000 in compensation from us in any twelve consecutive months at any time in the prior three years, other than for (i) board or board committee services, (ii) for compensation paid to an immediate family member as an employee but not as an executive officer, (iii) compensation paid for services as an interim chief executive officer, or (iv) benefits under a tax-qualified retirement plan or non-discretionary compensation;
- the director is not an immediate family member of an individual who is or was at any time during the prior three years been employed as our chief executive officer;
- neither the director nor an immediate family member is a partner, controlling stockholder or executive officer of any organization to which we made or from which we received payments (other than those arising from investments in our securities or payments under non-discretionary charitable contribution matching programs) that exceed the greater of 5% of our consolidated gross revenues or \$200,000, in any of the most recent three years;
- neither the director nor an immediate family member is employed as an executive officer of another entity where at any time during the most recent three fiscal years any of our executive officers serve on the compensation committee;
- neither the director nor an immediate family member is or was a partner of our outside auditor at any time in the past three years.

Audit Committee

As aforementioned, we intend to apply to list our common stock on NYSE American, at which time, we will amend our Audit Committee’s charter to comply with NYSE American listing rules, if necessary. The Audit Committee is currently comprised of David M. Kaye, Troy Grant and Mitzi Coogler. Upon listing on NYSE American, we expect to remove Mr. Kaye from our Audit Committee. We expect that Ms. Coogler will serve as an “audit committee financial expert” within the meaning of the applicable SEC regulations. Under NYSE American listing rules, independent directors must comprise a majority of a listed company’s board of directors (or 50% in the case of a smaller reporting company like us). In addition, NYSE American listing rules require that, subject to specified exceptions, each member of a listed company’s audit committee be independent. NYSE American listing rules require that a company’s audit committee consist of three members, unless the issuer is a smaller reporting company such as the Company, in which case only two members are required. Audit committee members must also satisfy additional independence criteria, including those set forth in Rule 10A-3 under Exchange Act.

The Audit Committee is appointed by our Board of Directors to assist in fulfilling its oversight responsibility by reviewing the accounting and financial reporting processes of the Company and its subsidiaries, our internal control and disclosure control system, and the audits of our financial statements. In this regard, the Audit Committee shall approve our retention of independent auditors and pre-approve any audit or non-audit services performed by them. It shall review with such accountants the arrangements for, and the scope of, the audit to be conducted by them. It also shall review with the independent accountants and with management the results of audits and various other financial and accounting matters affecting us.

In the event that our listing application is approved, we anticipate that all members of our Audit Committee will meet the relevant independence requirements for service on the Audit Committee and requirements for financial literacy set forth in the NYSE American listing rules and SEC rules and our Board of Directors will appoint an “audit committee financial expert” within the meaning of applicable SEC regulations. Both our independent registered public accounting firm and management will periodically meet privately with our Audit Committee.

The full text of our Audit Committee charter is posted on the investor relations portion of our website at <http://www.birchtech.com>. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it a part of this prospectus.

Other Committees

Our Board of Directors has no committees at the present time other than the Audit Committee.

Code of Ethics and Business Conduct

Our Board of Directors has adopted a written code of ethics and business conduct (the “Code of Conduct”), which outlines a set of ethical standards by which each director, officer and employee of the Company should conduct his or her business. The objective of the Code of Conduct is to provide guidelines for maintaining our commitment to honesty, integrity, and ethical behavior. The Code of Conduct addresses conflicts of interest, protection of our assets, confidentiality, fair dealing with customers, suppliers, competitors and employees, insider trading, compliance with laws, and reporting any illegal or unethical behavior. As part of the Code of Conduct, any person subject to the Code of Conduct is required to avoid or fully disclose interests or relationships that are harmful or detrimental to our best interests or that may give rise to real, potential, or the appearance of conflicts of interest. Our Board of Directors will have ultimate responsibility for the stewardship of and monitoring compliance with the Code of Conduct. Directors, officers, and employees may be required periodically to review the Code of Conduct and acknowledge in writing their understanding of and compliance with the Code. Our Code of Business Conduct and Ethics reflects the foregoing principles. A copy of the Code of Conduct is available free of charge to any person on written or telephone request to Birchtech Corp., 1810 Jester Drive, Corsicana, Texas 75109 or (614) 505-6115.

We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K relating to amendments to or waivers from any provision of the code of ethics and business conduct applicable to our Chief Executive Officer and Chief Financial Officer by posting such information on our website <http://www.birchtech.com>.

EXECUTIVE COMPENSATION

The following discussion relates to the compensation of our named executive officers, as determined under applicable SEC rules for smaller reporting companies like us, for the years ended December 31, 2024 and 2023, consisting of Richard MacPherson, our President and Chief Executive Officer, John Pavlish, Senior Vice President, and James Trettel, Executive Vice President of Operations.

Fiscal Year 2024 and 2023 Summary Compensation Table

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) (4)	Stock Options (\$) (4)	All Other Compensation (\$)(5)	Total (\$)
Richard MacPherson	2024	879,818	1,250,000	402,666	189,664	140,244	2,862,392
President and Chief Executive Officer, Secretary, Director (1)	2023	495,000	--	486,667	--	105,314	1,086,981
John Pavlish	2024	488,625	550,000	--	63,221	22,143	1,123,989
Senior Vice President (2)	2023	415,000	--	--	--	38,262	453,262
James Trettel	2024	552,500	600,000	--	126,443	23,217	1,302,160
Executive Vice President of Operations (3)	2023	400,000	--	--	--	21,533	421,533

(1) Mr. MacPherson was appointed President and Chief Executive Officer in March 2015. From November 1, 2022 to December 31, 2023, Mr. MacPherson's annual base salary was \$495,000. From January 1, 2024 to May 31, 2024, Mr. MacPherson's annual base salary was \$745,000. See "Executive Employment Agreements" below for information on the amended and restated employment agreement entered into with Mr. MacPherson effective June 1, 2024. During 2022, Mr. MacPherson was granted a retention stock bonus award in the amount of 3,000,000 shares of common stock. Such award was granted on November 8, 2022, which shares vested 25.0% every six months from the date of grant and became fully vested on November 8, 2024. During 2024, Mr. MacPherson was granted a five-year nonqualified stock option to acquire 300,000 shares of common stock exercisable at \$0.88 per share.

(2) Mr. Pavlish was appointed Senior Vice President in November 2014. From January 1, 2023 to December 31, 2023, Mr. Pavlish's annual base salary was \$415,000. From January 1, 2024 to May 31, 2024, Mr. Pavlish's annual base salary was \$480,000. See "Executive Employment Agreements" below for information on the amended and restated employment agreement entered into with Mr. Pavlish effective June 1, 2024. During 2024, Mr. Pavlish was granted a five-year nonqualified stock option to acquire 100,000 shares of common stock exercisable at \$0.88 per share.

(3) Mr. Trettel was appointed Vice President of Operations in January 2014. From November 1, 2022 to December 31, 2023, Mr. Trettel's annual based salary was \$400,000. From January 1, 2024 to May 31, 2024, Mr. Trettel's annual base salary was \$500,000. During 2022, Mr. Trettel was granted a five-year nonqualified stock option to acquire 500,000 shares of common stock exercisable at \$0.21 per share. See "Executive Employment Agreements" below for information on the employment agreement entered into with Mr. Trettel effective June 1, 2024. During 2024, Mr. Trettel was granted a five-year nonqualified stock option to acquire 200,000 shares of common stock exercisable at \$0.88 per share.

(4) Represents the dollar amount recognized for consolidated financial statement reporting purposes of restricted stock awards and stock option awards granted to the executive officers computed in accordance with FASB ASC Topic 718. For a discussion of valuation assumptions, see Note 11 to our consolidated financial statements included elsewhere in this prospectus for the year ended December 31, 2024. The dollar amount shown in the “Stock Awards” column for Mr. MacPherson reflects the grant date fair values recognized in 2023 and 2024 for the retention stock award granted in November 2022 which was subject to a vesting schedule. The full amount for the entire grant was \$960,000. The dollar amounts shown in the “Option Awards” column for Mr. MacPherson, Mr. Pavlish and Mr. Trettel reflect the grant date fair value recognized for stock options granted in 2024. There can be no assurance the amounts determined in accordance with FASB ASC Topic 718 will ever be realized. The following table provides information concerning the stock options granted to the executive officers:

Name	Year	Stock Options (#)	FASB ASC Topic 718 Value (\$)
Richard MacPherson	2024	300,000	189,664
	2023	--	--
John Pavlish	2024	100,000	63,221
	2023	--	--
James Trettel	2024	200,000	126,443
	2023	--	--

(5) The amounts shown for 2024 and 2023 in the “All Other Compensation” column are comprised of the following:

Name	Year	401k Match (\$)	Life Insurance Premiums (\$)	Auto Allowance (\$)	Perquisites and Other Benefits (\$) ⁽¹⁾
Richard MacPherson	2024	--	96,600	27,785	15,859
	2023	--	56,350	28,155	20,809
John Pavlish	2024	13,833	--	--	8,310
	2023	13,047	--	--	25,215
James Trettel	2024	17,217	--	--	6,000
	2023	15,533	--	--	6,000

(1) The amount for each of Messrs. MacPherson, Pavlish and Trettel includes \$6,000 for a home office allowance in 2024 and 2023. The amount for each of Messrs. MacPherson and Pavlish also includes \$9,859 and \$2,310, respectively, for medical expense reimbursement in 2024 and \$14,809 and \$5,075, respectively, for medical expense reimbursement in 2023. In addition, the amount for Mr. Pavlish in 2023 includes a gross up for taxes of \$14,140 in connection with the exercise of stock options.

Executive Employment Agreements

On June 7, 2024, the Company entered into an amended and restated employment agreement with Richard MacPherson, effective as of June 1, 2024, pursuant to which Mr. MacPherson will continue to serve as President and Chief Executive Officer of the Company. The agreement has a term of three years which after such three-year term will automatically renew for successive one-year periods unless otherwise terminated by either party prior to the next applicable renewal period. Mr. MacPherson is entitled to a base salary of \$1,000,000 per year, which may be increased from time to time solely at the discretion of our Board of Directors (or committee thereof). Mr. MacPherson shall be eligible to receive bonus compensation in such amounts and at such times as our Board of Directors (or committee thereof) at its sole discretion shall from time to time determine and which shall not exceed \$1,000,000 annually. He is entitled to participate in benefit plans that are made available to executive employees of the Company, and is entitled to certain other benefits. He is also entitled to receive equity awards subject to the sole discretion of our Board of Directors (or committee thereof). The agreement also provides for certain severance payments in the event the agreement is terminated by the Company without cause or terminated by Mr. MacPherson for good reason (as such terms are defined in the agreement).

On June 7, 2024, the Company also entered into an amended and restated employment agreement with John Pavlish, effective as of June 1, 2024, pursuant to which Mr. Pavlish will continue to serve as Senior Vice President and Chief Technology Officer of the Company. The agreement has a term of three years which after such three-year term will automatically renew for successive one-year periods unless otherwise terminated by either party prior to the next applicable renewal period. Mr. Pavlish is entitled to a base salary of \$500,000 per year, which may be increased from time to time solely at the discretion of our Board of Directors (or committee thereof). Mr. Pavlish shall be eligible to receive bonus compensation in such amounts and at such times as our Board of Directors (or committee thereof) at its sole discretion shall from time to time determine and which shall not exceed \$500,000 annually. He is entitled to participate in benefit plans that are made available to executive employees of the Company, and is entitled to certain other benefits. He is also entitled to receive equity awards subject to the sole discretion of our Board of Directors (or committee thereof). The agreement also provides for certain severance payments in the event the agreement is terminated by the Company without cause or terminated by Mr. Pavlish for good reason (as such terms are defined in the agreement).

On June 7, 2024, the Company also entered into an employment agreement with James Trettel, effective as of June 1, 2024, pursuant to which Mr. Trettel will serve as Executive Vice President of Operations of the Company. The agreement has a term of three years which after such three-year term will automatically renew for successive one-year periods unless otherwise terminated by either party prior to the next applicable renewal period. Mr. Trettel is entitled to a base salary of \$600,000 per year, which may be increased from time to time solely at the discretion of our Board of Directors (or committee thereof). Mr. Trettel shall be eligible to receive bonus compensation in such amounts and at such times as our Board of Directors (or committee thereof) at its sole discretion shall from time to time determine and which shall not exceed \$500,000 annually. He is entitled to participate in benefit plans that are made available to executive employees of the Company, and is entitled to certain other benefits. He is also entitled to receive equity awards subject to the sole discretion of our Board of Directors (or committee thereof). The agreement also provides for certain severance payments in the event the agreement is terminated by the Company without cause or terminated by Mr. Trettel for good reason (as such terms are defined in the agreement).

Outstanding Equity Awards as of December 31, 2024

The following table sets forth certain information about the number of unexercised nonqualified stock options held as of December 31, 2024 by each executive named in the Summary Compensation Table.

Name	Number of securities underlying unexercised options (#)	Number of securities underlying unexercised options (#)	Option Exercise Price (\$)	Option Expiration Date
	exercisable	unexercisable		
Richard MacPherson	500,000	-	0.19	07/08/2025
	500,000	-	0.58	12/14/2025
	750,000	-	0.78	11/22/2026
	300,000	-	0.88	01/15/2029
John Pavlish	500,000	-	0.19	07/08/2025
	500,000	-	0.58	12/14/2025
	500,000	-	0.78	11/22/2026
	500,000	-	0.21	05/31/2027
	100,000	-	0.88	01/15/2029
James Trettel	500,000	-	0.19	07/08/2025
	500,000	-	0.58	12/14/2025
	500,000	-	0.78	11/22/2026
	500,000	-	0.21	05/31/2027
	200,000	-	0.88	01/15/2029

Other Benefits

Our executive officers are eligible to participate in all of our employee benefit plans, such as medical and dental, our employee stock purchase plan, and our 401(k) plan, in each case on the same basis as other employees, subject to applicable law, should such benefits exist. Our 401(k) plan allows eligible employees to defer a portion of their compensation before federal income tax to a qualified trust. All employees who are at least 21 years of age are eligible to participate in the 401(k) plan. The participants may choose from multiple investment options for the investment of their deferred compensation. In addition, we match 100% of each participant's salary deferral, for the first 4% of their salary, with a cash contribution. For the years ended December 31, 2024 and 2023, we contributed \$71,909 and \$55,487, respectively, to the 401(k) plan. We also provide vacation and other paid holidays to all employees, including our executive officers, which are comparable to those provided at peer companies. Certain other perquisites and benefits are provided to our executive officers as reflected in the tables above.

Policies Regarding Recovery of Awards

Our Board of Directors has not adopted a policy that requires us to make retroactive adjustments to any cash or equity-based incentive compensation paid to executive officers (or others) where the payment was predicated upon the achievement of financial results that were subsequently the subject of a restatement. However, in connection with our application to list our common stock on NYSE American, we intend to adopt a clawback policy that complies with NYSE American's clawback rules promulgated under Section 10D of the Exchange Act and the rules promulgated thereunder.

Tax and Accounting Treatment of Compensation

Section 162(m) of the Internal Revenue Code places a limit of \$1.0 million per person on the amount of compensation that we may deduct in any one year with respect to our Chief Executive Officer and certain of our other executive officers. While our Board of Directors considers deductibility factors when making compensation decisions, our Board of Directors also looks at other considerations, such as providing our executive officers with competitive and adequate incentives to remain with us and increase our business operations, financial performance, and prospects, as well as rewarding extraordinary contributions.

We account for equity compensation paid to our employees under the rules of FASB ASC Topic 718, which requires us to estimate and record an expense for each award of equity compensation over the service period of the award. Accounting rules also require us to record cash compensation as an expense at the time the obligation is accrued. We have not tailored our executive compensation program to achieve particular accounting results.

Policies on Ownership, Insider Trading, Hedging, and 10b5-1 Plans

We do not have formal stock ownership guidelines for our employees or directors, because our Board of Directors is satisfied that stock and option holdings among our employees or directors, are sufficient at this time to provide motivation and to align this group's interests with those of our stockholders. In addition, we believe that stock ownership guidelines are rare in companies at our stage, which means that ownership requirements would put us at a competitive disadvantage when recruiting and retaining high-quality executives.

We have established an insider trading policy which provides guidelines to officers, directors and employees with respect to transactions in the Company's securities. The Company's insider trading policy prohibits certain actions by such individuals relating to buying and selling common stock of the Company, and discourages certain other actions in other situations. Such individuals are authorized to enter into trading plans established according to Section 10b5-1 of the Exchange Act with an independent broker-dealer. Under these plans, the individual must not exercise any influence over the amount of the securities to be traded, the price at which they are to be traded or the date of the trade. The plan must either specify the amount, pricing and timing of transactions in advance or delegate discretion on these matters to an independent third party. Such plans provide a defense from insider trading liability. As of [REDACTED], no director or named executive officer had a trading plan in place.

Stockholder Advisory Vote on Executive Compensation

Our Company held an advisory vote on executive compensation in 2024 and takes such action annually. Our Board of Directors intends to periodically reevaluate our executive compensation philosophy and practices in light of our performance, needs and developments, including the outcome of future non-binding advisory votes by our stockholders.

Stock Option Grant Practices

Our Company has certain practices relating to the timing of grants of stock options. For option grants to our employees, including executive officers, and non-employee directors, grants of options are currently made by and at meetings of our Board of Directors, or by unanimous written consent in lieu of a meeting, under our Amended and Restated 2017 Equity Incentive Plan. While our Board of Directors does not currently have a formal policy regarding the timing and terms of stock option awards while in possession of material non-public information, our Board of Directors expects to defer grants until a date on which the Company is not in possession of material non-public information. It is the Company's practice not to time the disclosure of material non-public information for the purpose of affecting the value of executive or director compensation.

DIRECTOR COMPENSATION

Director Compensation Table for Year Ended December 31, 2024

The following table sets forth information regarding the compensation for 2024 of each non-executive member of our Board of Directors (Ms. Coogler was elected to our Board of Directors on December 30, 2024 and Christopher Greenberg resigned from our Board of Directors on July 1, 2025):

Name	Fees Earned or Paid in Cash (\$)	Stock Option Awards(\$)(1)	Option Awards (\$)(1)	Total (\$)
Christopher Greenberg	150,000	--	126,443	276,443
David M. Kaye	75,000	--	63,221	138,221
Troy Grant	100,000	43,500	--	143,500
Mitzi H. Coogler	--	--	--	--

(1) Represents the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. For a discussion of valuation assumptions, see Note 11 to our consolidated financial statements included elsewhere in this prospectus for the year ended December 31, 2024. There can be no assurance the amounts determined in accordance with FASB ASC Topic 718 will ever be realized. The following table provides information concerning the restricted stock units ("RSUs") and stock options granted to the Directors for 2024:

Name	Stock Awards (#)	FASB ASC Topic 718 Value	Stock Options (#)	FASB ASC Topic 718 Value
Christopher Greenberg	--	--	200,000	126,443
David M. Kaye	--	--	100,000	63,221
Troy Grant	50,000(1)	43,500	--	--

(1) On January 15, 2024, the Company granted 50,000 RSUs to Mr. Grant. The RSUs vest one year from the grant on January 15, 2025. Once vested, each RSU represents the right to receive one share of the Company's common stock.

For 2024, Mr. Greenberg's compensation for serving as Chairman of our Board of Directors was \$150,000, and each of Mr. Kaye and Mr. Grant were paid \$75,000 for serving on our Board of Directors. On September 19, 2024, Mr. Greenberg resigned as chairperson of the Audit Committee and Mr. Grant was appointed chairperson in his place and will be paid \$75,000 annually for serving in such position in addition to the fee paid for his serving on our Board of Directors. Effective as of January 1, 2025, Ms. Coogler shall be paid \$75,000 annually for serving on our Board of Directors.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than the compensation agreements and other arrangements described under the sections entitled “Executive Compensation” and “Director Compensation” in this prospectus and the transactions described below, since January 1, 2022, there has not been and there is not currently proposed, any transaction or series of similar transactions to which we were, or will be, a party in which the amount involved exceeded, or will exceed, the lesser of (i) \$120,000 or (ii) one percent of the average of our total assets for the last two completed fiscal years, and in which any director, executive officer, holder of five percent or more of any class of our capital stock, or any member of the immediate family of, or entities affiliated with, any of the foregoing persons, had, or will have, a direct or indirect material interest.

On February 27, 2024, we entered into an Unsecured Debt Restructuring Agreement (the “Debt Restructuring Agreement”) with AC Midwest Energy LLC (“AC Midwest”) which replaced and superseded the Unsecured Note Financing Agreement and Reaffirmation of Guaranty entered into with AC Midwest on February 25, 2019, as amended on October 28, 2022 (the “Unsecured Note Financing Agreement”).

Pursuant to the Unsecured Note Financing Agreement, prior to February 27, 2024, AC Midwest was the holder of an unsecured note with a principal amount outstanding of \$13,154,930.61 which was issued on February 25, 2019 (the “Unsecured Note”). The Unsecured Note was scheduled to mature on August 25, 2025 and bears a zero cash interest rate. Pursuant to the Unsecured Note Financing Agreement, AC Midwest was also entitled to a “non-recourse” profit participation preference equal to \$17,654,930.60 (the “Profit Share”). Prior to maturity, the outstanding principal, as well as the Profit Share, were to be paid from Net Litigation Proceeds from claims relating to the Company’s intellectual property, Net Revenue Share, Adjusted Free Cash Flow and Equity Offering Net Proceeds (as such terms are defined in the Unsecured Note Financing Agreement). Any remaining principal balance due on the Unsecured Note would be due and payable in full on the maturity date. The Profit Share, however, if not paid in full on or before the maturity date would remain subject to the Unsecured Note Financing Agreement until full and final payment.

Prior to February 27, 2024, there also remained outstanding to AC Midwest a principal balance of \$271,686.10 due under a secured note of the Company issued on November 29, 2016 in the original principal amount of \$9,646,686, which had a maturity date of August 25, 2025 (the “Secured Note”). The Secured Note had been issued pursuant to an Amended and Restated Financing Agreement and Reaffirmation of Guaranty, dated as of November 1, 2016, as amended on June 14, 2018, September 12, 2019, February 25, 2019 and October 28, 2022 (the “Restated Financing Agreement”).

Pursuant to the Debt Restructuring Agreement, on February 27, 2024, we (i) paid AC Midwest \$9,040,000 as a reduction in the outstanding principal balance of the Unsecured Note, (ii) issued to AC Midwest a new unsecured replacement note representing the remaining outstanding principal balance of the Unsecured Note in the principal amount of \$4,114,930.60 (the “New Note”), and (iii) paid AC Midwest \$275,625.55 representing the remaining principal balance under the Secured Note of \$271,686.10 plus interest of \$3,939.45. In addition, within 30 days, we would either facilitate the private sale to third parties of certain shares of common stock of the Company held by AC Midwest for a purchase price of no less than \$960,000, which amount shall be applied as a credit against the principal balance due on the New Note dollar for dollar, or pay AC Midwest \$960,000 toward the principal balance due on the New Note. The private sale of shares for the purchase price of \$960,000 was completed on March 11, 2024. Any remaining principal balance on the New Note shall be due August 27, 2024 (the “Maturity Date”), which is six months from February 27, 2024. Until repaid in full, the New Note shall accrue interest at a rate equal to the Secured Overnight Financing Rate plus 2.0% per annum. The New Note completely replaced and superseded the Unsecured Note, which shall be of no further force and effect. On August 26 and 27, 2024, the Company repaid AC Midwest the remaining principal of \$3,154,931 on the New Note together with accrued interest of \$119,164. As a result, the only remaining debt obligation under the Debt Restructuring Agreement is the profit participation as described below.

In addition, pursuant to the Debt Restructuring Agreement, AC Midwest shall be entitled to a profit participation preference equal to \$7,900,000 (the “Restructured Profit Share”). The Restructured Profit Share is “non-recourse” and shall only be paid from Net Litigation Proceeds (as defined in the Debt Restructuring Agreement) from claims relating to our intellectual property. Following the receipt of any Net Litigation Proceeds, we shall prepay any remaining principal balance of the New Note and pay the Restructured Profit Share in an amount equal to 75.0% of such Net Litigation Proceeds until the New Note and Restructured Profit Share have been paid in full. The Restructured Profit Share completely replaces and supersedes the terms and conditions of the Profit Share in the amount of \$17,654,930.60 provided for in the Unsecured Note Financing Agreement, which shall be of no further force and effect. The Restructured Profit Share, if not paid in full on or before the Maturity Date, shall remain subject to the terms of the Debt Restructuring Agreement.

In addition to facilitating the private sale to third parties as described above, AC Midwest granted the Company the exclusive right until December 31, 2024 to facilitate the sale of all or a portion of the remaining balance of the shares of common stock of the Company held by AC Midwest, which proceeds above a certain amount will be applied as a credit against the Restructured Profit Share dollar for dollar (the “Facilitation Credit”). As of December 31, 2024, the Company had not facilitated the sale of any portion of the remaining shares held by AC Midwest. As a result, no Facilitation Credit has been issued to the Company.

As a result of the repayment of the remaining principal balance under the Secured Note, we and AC Midwest executed a Satisfaction and Discharge of Secured Debt confirming the cancellation of the Secured Note and that all of the obligations under the Restated Financing Agreement have been fully satisfied and discharged.

AC Midwest beneficially owns, or controls or directs, directly or indirectly, 9.60% of the outstanding shares of our common stock.

On June 13, 2022, the Company entered into a promissory note in the amount of \$250,000 with Christopher Greenberg, who was the Chairman of our Board of Directors at such time. The note bore interest at 6% and was due on the earlier of 90 days or the Company having cash of \$1,200,000. On October 11, 2022, such loan together with all accrued interest was repaid in full by the Company.

Kaye Cooper Kay & Rosenberg, LLP provides certain legal services to the Company and was paid \$481,250, \$393,111 and \$431,444 for the years ended December 31, 2022, December 31, 2023 and December 31, 2024, respectively, for legal services rendered and disbursement incurred. David M. Kaye, a Director of the Company, is a partner of the law firm. The Company incurred \$112,500 and \$101,583 for the three months ended June 30, 2025 and 2024, respectively, and \$225,000 and \$202,277, respectively, for legal services rendered and disbursement incurred for the six months ended June 30, 2025 and 2024. At June 30, 2025 and December 31, 2024, \$37,500 and \$37,500, respectively, was owed to the firm for services rendered.

On January 31, 2023, we entered into a License and Supply Agreement with Dakin Holdings Ltd., a company incorporated in Barbados (“Dakin”), effective as of January 1, 2023 (the “Dakin Agreement”), pursuant to which Dakin has granted to the Company (i) a limited license to manufacture and produce for Dakin products (the “Dakin Products”) comprising certain intellectual property owned by Dakin as described below (the “Dakin IP”), and (ii) an exclusive license to commercialize the Dakin IP in the United States. Dakin is a company owned and controlled by Richard MacPherson, the Company’s Chief Executive Officer and President. The Dakin Agreement is for a term of ten years unless terminated earlier under certain circumstances as set forth therein. Under the Dakin Agreement, Dakin shall purchase from the Company 100% of Dakin’s requirements for the Dakin Products containing the Dakin IP for all sales of the Dakin Products outside of the United States, subject to the availability of the products from the Company, at a pricing formula set forth in the Dakin Agreement. The Company was required to pay Dakin a license fee of \$12,500 per month for a three-year period commencing as of the effective date, and pay Dakin a royalty on all sales of the Dakin Products made by the Company in the United States. The Company also agreed to provide Dakin with technical support as requested by Dakin at such technical support rates set forth in the Dakin Agreement subject to adjustment. On November 18, 2024, the parties entered into an amendment to the Dakin Agreement which eliminated all further monthly license fees after September 30, 2024. The Dakin IP consists of a proprietary compound of materials engineered to treat a boiler to improve the combustion process and thereby reduce overall emissions, while improving boiler efficiency during the combustion of all types of fuels at power plants. For the years ended December 31, 2023 and 2024, Dakin incurred license fees of \$150,000 and \$112,500, respectively. For the six months ended June 30, 2025 and 2024, Dakin incurred \$0 and \$75,000 license fees. At June 30, 2025 and December 31, 2024, \$0 and \$0 was owed to Dakin for license fees.

On May 28, 2024, the Company entered into an Administrative Services Agreement with Greenberg Enterprises, LLC (“Greenberg Enterprises”), pursuant to which Greenberg Enterprises will be paid for certain administrative support provided to the Company since January 1, 2024 and administrative support to be provided in the future to the Company including but not limited to general office and technical support, project management and support, and vendor relations support. Such agreement was terminated effective in December 2024. During the year ended December 31, 2024, Greenberg Enterprises provided \$237,020 for administrative services and \$335,100 for expense reimbursement. At December 31, 2024, Greenberg Enterprises was owed \$0 from the Company pursuant to the agreement. Greenberg Enterprises is a company owned and controlled by Christopher Greenberg, the former Chairman of our Board of Directors.

Indemnification Agreements

In connection with this offering and our intended application to list our common stock on NYSE American, we intend to enter into new agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines, and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our Company or that person's status as a member of our Board of Directors to the maximum extent allowed under Delaware law.

Policies for Approval of Related Party Transactions

All related persons transactions were reviewed and approved by a majority of our Board of Directors on terms no less favorable than those that could be obtained from unaffiliated third parties. Further, we intend to ensure that all future transactions between us and any related person are approved by a majority of the members of our Board of Directors, including a majority of the independent and disinterested members of our Board of Directors, and are on terms no less favorable to us than those that we could obtain from unaffiliated third-parties. Additionally, all such transactions shall be reviewed and approved by our Audit Committee, which will present its determination to our Board of Directors as a whole.

In connection with this offering and our intended application to list our common stock on NYSE American, we expect to adopt a written related party transactions policy that will provide that such transactions must be approved by our Audit Committee. This policy will become effective on the date on which the registration statement of which this prospectus is part is declared effective by the SEC. Pursuant to this policy, the Audit Committee has the primary responsibility for reviewing and approving or disapproving “related party transactions,” which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed the lesser of (i) \$120,000 or (ii) one percent of the average of our total assets for the last two completed fiscal years, and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person will be defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information known to us regarding beneficial ownership of our common stock as of , 2025 by:

- each person or group of affiliated persons known by us to be the beneficial owner of more than five percent of our capital stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The column entitled "Percentage of Shares Beneficially Owned-Before Offering" is calculated based on shares of common stock outstanding as of , 2025, as adjusted for a reverse stock split of our common stock at a 1-for- ratio. The column entitled "Percentage of Shares Beneficially Owned-After Offering" is based on shares of our common stock to be outstanding after this offering, as adjusted for a reverse stock split of our common stock at a 1-for- ratio, including the shares of our common stock that we are selling in this offering (without giving effect to the issuance of shares if the underwriters elect to exercise their option to purchase additional shares in full), but not including any additional shares issuable upon exercise of outstanding options.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities as well as any shares of common stock that the person has the right to acquire within 60 days of , 2025 through the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them.

Except as otherwise noted below, the address for persons listed in the table is c/o the Company at 1810 Jester Drive, Corsicana, Texas 75109.

Name	Number of Shares Beneficially Owned	Percentage of Outstanding Shares Beneficially Owned (8)	
		Before Offering	After Offering
<i>Directors and Named Executive Officers:</i>			
Richard MacPherson	(1)	%	%
John Pavlish	(2)	%	%
James Trettel	(3)	%	%
David M. Kaye	(4)	%	%
Troy Grant	(5)	%	%
Mitzi H. Coogler	(6)	%	%
All officers and directors as a group (7 persons)		%	%
<i>5% or Greater Stockholders:</i>			
Alterna Core Capital Assets Fund II, L.P., et al	(7)	%	%

* Less than one percent of the outstanding shares of common stock of the Company.

(1) Includes shares owned by Mr. MacPherson and shares which Mr. MacPherson has the right to acquire upon exercise of options.

(2) Includes shares owned by Mr. Pavlish and shares which Mr. Pavlish has the right to acquire upon exercise of options.

(3) Includes shares owned by Mr. Trettel, owned by Mr. Trettel's wife, and shares which Mr. Trettel has the right to acquire upon exercise of options.

(4) Includes shares owned by Mr. Kaye and shares which Mr. Kaye has the right to acquire upon exercise of options.

(5) Includes shares owned by Mr. Grant and shares which Mr. Grant has the right to acquire upon exercise of options. Does not include 50,000 shares underlying 50,000 RSUs which will vest one year from the date of grant on January 15, 2025.

(6) Includes shares which Ms. Coogler has the right to acquire upon exercise of options. Represents shares owned by Ms. Coogler with her husband, as joint tenants.

(7) Represents shares owned and based solely upon and according to information reported in filings made to the SEC, jointly filed by and on behalf of certain reporting persons identified below (the "Reporting Persons"). The Reporting Persons are Alterna Core Capital Assets Fund II, L.P., Alterna Capital Partners LLC, Alterna General Partner II LLC, AC Midwest Energy LLC, Eric M. Press, Roger P. Miller, and Earle Goldin. The address for the Reporting Persons is 10 Corporate Drive, Suite 2204, Bedford, NH 03110.

(8) Applicable percentage ownership for each stockholder is based on shares of common stock outstanding as of , 2025 plus any securities that stockholder has the right to acquire within 60 days of , 2025 pursuant to options, warrants, conversion privileges, or other rights. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of common stock that a person has the right to acquire beneficial ownership of upon the exercise or conversion of options, convertible stock, warrants, or other securities that are currently exercisable or convertible or that will become exercisable or convertible within 60 days of , 2025 are deemed to be beneficially owned by the person holding such securities for the purpose of computing the percentage of ownership of such person, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms of our certificate of incorporation and second amended and restated bylaws, which will become effective immediately prior to the closing of this offering. The descriptions in this prospectus of our securities and our organizational documents do not purport to be complete and are subject to, and qualified in their entirety by reference to, our organizational documents, copies of which have been or will be filed or incorporated by reference as exhibits to the registration statement of which this prospectus form a part. We refer in this section to our certificate of incorporation as our certificate of incorporation, and we refer to our second amended and restated bylaws as our bylaws.

General

We are authorized to issue 150,000,000 shares of common stock and 2,000,000 shares of preferred stock, par value \$0.001 per share (the “preferred stock”). As of , 2025, shares of our common stock were outstanding and held of record by stockholders, and no shares of preferred stock were outstanding.

Common Stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of our stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our Board of Directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights, or redemption or sinking fund provisions.

In the event of our liquidation, dissolution, or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding convertible preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid, and non-assessable.

Preferred Stock

Our Board of Directors is authorized, without further action by our stockholders, to issue up to 2,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, and restrictions thereof. These rights, preferences, and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms, and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring, or preventing a change in control of our Company or other corporate action. Immediately after consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Stock Options

As of , 2025, there were outstanding options to purchase an aggregate of shares of our common stock at a weighted average exercise price of \$ per share.

Anti-Takeover Effects of our Certificate of Incorporation and Bylaws and Delaware Law

Our certificate of incorporation and bylaws contain provisions that could have an anti-takeover effect, including provisions that provide the following:

- the ability of our Board of Directors to determine the rights, preferences and privileges of our preferred stock and to issue the preferred stock without stockholder approval;

- advance notice requirements for election to our Board of Directors and for proposing matters that can be acted upon at stockholder meetings;
- vacancies on our Board of Directors may be filled by a majority of directors then in office, although less than a quorum;
- authority granted to our Board of Directors to increase or decrease the size of our Board of Directors;
- authorization for our Board of Directors, by majority vote, to amend the bylaws; and
- under the DGCL, stockholders are not entitled to cumulative voting in the election of directors unless specifically provided for; our certificate of incorporation and bylaws do not provide for cumulative voting.

Filling Board Vacancies

Our certificate of incorporation provides that any vacancy on our Board of Directors, however occurring, including a vacancy resulting from an increase in the size of our Board of Directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The limitation on treatment of director vacancies has the effect of making it more difficult for stockholders to change the composition of our Board of Directors.

No Written Consent of Stockholders

Our certificate of incorporation provides that stockholder actions must be taken by a vote of the stockholders at an annual or special meeting, meaning stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our bylaws provide that a special meeting may be called only by our Chairman, if any, the Chief Executive Officer, the President or any Vice President, the Secretary or by our Board of Directors, and shall be called by any of the foregoing at the request in writing of stockholders owning in the aggregate not less than 25% of the entire capital stock of the Corporation issued and outstanding and entitled to vote. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 45 days nor more than 120 days prior to the date on which we filed our definitive proxy materials (regardless of whether or not thereafter revised or supplemented) with the SEC for the prior year's annual meeting of stockholders. Our bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Bylaws

Our bylaws may be amended by, at either an annual or special meeting, the affirmative vote of a majority of the stock entitled to vote at such meeting. Our bylaws may also be amended by unanimous written consent or at any annual or special meeting by the affirmative vote of a majority of the whole number of directors, subject to the power of the stockholders to change or repeal such bylaws and provided that our Board of Directors shall not make or alter any bylaws fixing the qualifications, classifications, term of office or compensation of directors.

Undesignated Preferred Stock

Our certificate of incorporation provides for 2,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our Board of Directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest, or otherwise. For example, if in the due exercise of its fiduciary obligations, our Board of Directors were to determine that a takeover proposal is not in the best interests of our stockholders, our Board of Directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our Board of Directors has broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

NYSE American Listing

We will apply to list our common stock on NYSE American under the trading symbol “BCHT”.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Transfer Online, Inc., 512 SE Salmon Street, Portland, Oregon 97214. The co-transfer agent and registrar for our common stock in Canada is TSX Trust Company at its offices in Toronto, Ontario, Canada.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, shares of our common stock were traded on the TSX under the symbol “BCHT” and quoted on the OTCQB maintained by OTC Markets Group Inc. under the symbol “BCHT”. Future sales of our common stock in the public market, or the perception that these sales may occur, could adversely affect the prevailing market prices for our common stock and could impair our ability to raise equity capital in the future. (See “Risk Factors—Risks Related to this Offering—The sale or availability for sale of substantial amounts of common stock could adversely affect their market price.”)

Based on the number of shares outstanding as of , 2025, as adjusted for a reverse stock split of our common stock at a 1-for- ratio, upon the completion of this offering, shares of our common stock will be outstanding, assuming no exercise of the underwriters’ option to purchase additional shares and no exercise of outstanding options. All of the shares of our common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act, except for any shares sold to our “affiliates,” as that term is defined under Rule 144 under the Securities Act or purchased by existing stockholders and their affiliated entities that are subject to lock-up agreements. In addition to the shares issued in this offering, we have shares that are publicly traded. The remaining shares of our common stock held by existing stockholders are “restricted securities,” as that term is defined in Rule 144 under the Securities Act. Restricted securities may be sold in the public market only if registered or if their resale qualifies for exemption from registration, including pursuant to Rule 144 promulgated under the Securities Act. Restricted securities may also be sold outside of the U.S. to non-U.S. persons in accordance with Rule 904 of Regulation S.

The shares sold in this offering and of the existing restricted shares will be eligible for sale upon expiration of the lock-up agreements referred to below, subject in some cases to applicable volume, manner of sale and other limitations under Rule 144.

Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale and have filed all reports required thereunder. Persons who have beneficially owned restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares then outstanding, which will equal approximately shares immediately after this offering and the concurrent private placements, assuming no exercise of the underwriters’ option to purchase additional shares, based on the number of shares outstanding as of , 2025, as adjusted for a reverse stock split of our common stock at a 1-for- ratio; or
- the average weekly trading volume of our common stock on NYSE American during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale and have filed all reports required thereunder. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Approximately shares of our common stock will be eligible for sale under Rule 144. We cannot estimate the number of shares of our common stock that our existing stockholders will elect to sell under Rule 144.

Lock-Up Agreements

We have agreed, subject to certain exceptions and without the approval of the representative of the underwriters, not to offer for sale, issue, sell, contract to sell, pledge or otherwise dispose of any of our common stock or securities convertible into common stock for a period of days after the date of this prospectus. Our directors, officers and principal stockholders have agreed with the underwriters not to offer for sale, issue, sell, contract to sell, pledge or otherwise dispose of any of our common stock or securities convertible into common stock for a period of days after the date of this prospectus.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO U.S. AND NON-U.S. HOLDERS

The following is a summary of the material U.S. federal income tax considerations relating to the purchase, ownership, and disposition of our common stock purchased in this offering, which we refer to collectively as our securities, but is for general information purposes only and does not purport to be a complete analysis of all the potential tax considerations. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (the "Code"), final, temporary, and proposed Treasury regulations promulgated thereunder, administrative rulings and pronouncements and judicial decisions, all in effect as of the date hereof. These authorities may change, possibly retroactively, resulting in U.S. federal income tax consequences different from those set forth below. There can be no assurance that the Internal Revenue Service (the "IRS") will not challenge one or more of the tax consequences described herein, and we have not obtained, and do not intend to obtain, an opinion of counsel or ruling from the IRS with respect to the U.S. federal income tax considerations relating to the purchase, ownership, or disposition of our securities.

This summary does not address any alternative minimum tax considerations, any considerations regarding the Medicare tax, any considerations regarding the tax on net investment income, or the tax considerations arising under the laws of any state, local, or non-U.S. jurisdiction, or under any non-income tax laws, including U.S. federal gift and estate tax laws, except to the limited extent set forth below. In addition, this summary does not address all of the tax consequences that may be relevant to investors, nor does it address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies, or other financial institutions;
- investment funds;
- tax-exempt entities or governmental organizations, including agencies or instrumentalities thereof;
- regulated investment companies and real estate investment trusts;
- controlled foreign corporations, passive foreign investment companies, and corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than five percent of our common stock (except to the extent specifically set forth below);
- tax-qualified retirement plans;
- certain expatriates and former citizens or long-term residents of the United States;
- partnerships or entities or arrangements classified as partnerships for U.S. federal income tax purposes and other pass-through entities including S corporations and trusts (and any investors therein);
- persons who hold our securities as a position in a hedging transaction, "straddle," "conversion transaction," or other risk reduction transaction or integrated investment;
- persons who do not hold our securities as a capital asset within the meaning of Section 1221 of the Code;
- persons deemed to sell our securities under the constructive sale provisions of the Code, or persons holding the securities as part of a "straddle," hedge, conversion transaction, integrated transaction, or other similar transaction;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; or
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

In addition, if a partnership (or entity or arrangement classified as a partnership for U.S. federal income tax purposes) holds our securities, the tax treatment of a partner generally will depend on the status of the partner and upon the activities of the partnership. Accordingly, partnerships that hold our securities, and partners in such partnerships, should consult their tax advisors regarding the U.S. federal income tax consequences to them.

This discussion is for informational purposes only and is not tax advice. You are urged to consult your own tax advisors with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the purchase, ownership, and disposition of our securities arising under the U.S. federal estate or gift tax laws or under the laws of any state, local, non-U.S., or other taxing jurisdiction or under any applicable tax treaty.

CONSEQUENCES TO U.S. HOLDERS

The following is a summary of the U.S. federal income tax consequences that will apply to a U.S. holder of our securities. For purposes of this discussion, you are a U.S. holder if, for U.S. federal income tax purposes, you are a beneficial owner of our securities, other than a partnership, that is:

- an individual citizen or resident of the United States;
- a corporation or other entity taxable as a corporation created or organized in the United States or under the laws of the United States, any State thereof or the District of Columbia;
- an estate or trust whose income is subject to U.S. federal income tax regardless of its source; or
- a trust (x) whose administration is subject to the primary supervision of a U.S. court and which has one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Code) who have the authority to control all substantial decisions of the trust or (y) which has made a valid election to be treated as a “United States person.”

Distributions

As described in the section titled “Dividend Policy,” we currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business, and therefore do not intend to pay cash dividends on our common stock for the foreseeable future. However, if we do make distributions in cash or other property on our common stock, those payments will constitute dividends for U.S. tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent our distributions exceed both our current and our accumulated earnings and profits, the excess will constitute a return of capital that will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale or other disposition of stock as described below under “Sale, Exchange, or Other Taxable Disposition of Common Stock.”

Dividend income may be taxed to an individual U.S. holder at rates applicable to long-term capital gains, provided that a minimum holding period and other limitations and requirements are satisfied with certain exceptions. Any dividends that we pay to a U.S. holder that is a corporation will qualify for the dividends received deduction if the requisite holding period is satisfied, subject to certain limitations. U.S. holders should consult their own tax advisors regarding the holding period and other requirements that must be satisfied in order to qualify for the reduced tax rate on dividends or the dividends-received deduction.

Sale, Exchange, or Other Taxable Disposition of Common Stock

A U.S. holder will generally recognize capital gain or loss on the sale, exchange, or other taxable disposition of our common stock. The amount of gain or loss will equal the difference between the amount realized on the sale and such U.S. holder’s adjusted tax basis in such common stock. The amount realized will include the amount of any cash and the fair market value of any other property received in exchange for such common stock. A U.S. holder’s adjusted tax basis in its common stock will generally equal the U.S. holder’s acquisition cost or purchase price, less any prior distributions treated as a return of capital. Gain or loss will be long-term capital gain or loss if the U.S. holder has held the common stock for more than one year. Long-term capital gains of non-corporate U.S. holders are generally taxed at preferential rates. The deductibility of capital losses is subject to certain limitations.

Information Reporting and Backup Withholding

In general, information reporting requirements may apply to dividends paid to a U.S. holder and to the proceeds of the sale or other disposition of our common stock, unless the U.S. holder is an exempt recipient. Backup withholding may apply to such payments if the U.S. holder fails to provide a taxpayer identification number, a certification of exempt status or has been notified by the IRS that it is subject to backup withholding (and such notification has not been withdrawn).

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability provided the required information is timely furnished to the IRS.

Unearned Income Medicare Tax

A 3.8% Medicare contribution tax will generally apply to all or some portion of the net investment income of a U.S. holder that is an individual with adjusted gross income that exceeds a threshold amount (\$200,000, or \$250,000 if married filing jointly).

CONSEQUENCES TO NON-U.S. HOLDERS

The following is a summary of the U.S. federal income tax consequences that will apply to a non-U.S. holder of our securities. A "non-U.S. holder" is a beneficial owner of our securities (other than a partnership or an entity or arrangement treated as a partnership for U.S. federal income tax purposes) that, for U.S. federal income tax purposes, is not a U.S. holder. The term "non-U.S. holder" includes:

- a non-resident alien individual (other than certain former citizens and residents of the U.S. subject to U.S. tax as expatriates);
- a foreign corporation;
- an estate or trust that is not a U.S. holder; or
- any other person that is not a U.S. holder;

but generally does not include an individual who is present in the U.S. for 183 days or more or who is otherwise treated as a U.S. resident in the taxable year. If you are such an individual, you should consult your tax advisor regarding the U.S. federal income tax consequences of the acquisition, ownership, or sale or other disposition of our securities.

Distributions

As described in the section titled "Dividend Policy," we currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business, and therefore do not intend to pay cash dividends on our common stock for the foreseeable future. However, subject to the discussion below regarding effectively connected income, if we do make distributions of cash or property on our securities, any distribution paid to a non-U.S. holder, to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles) generally will constitute a dividend for U.S. federal income tax purposes and, provided such dividends are not effectively connected with the non-U.S. holder's conduct of a trade or business within the U.S., will be subject to U.S. withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty. In order to receive a reduced treaty rate, a non-U.S. holder must provide us with an IRS Form W-8BEN, IRS Form W-8BEN-E, or other applicable documentation properly certifying qualification for the reduced rate. These forms must be provided prior to the payment of dividends and must be updated periodically. A non-U.S. holder eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty should consult with its individual tax advisor to determine if you may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If a non-U.S. holder holds our securities through a financial institution or other agent acting on the non-U.S. holder's behalf, the non-U.S. holder will be required to provide appropriate documentation to the agent, which then may be required to provide certification to us or our paying agent, either directly or through other intermediaries.

Dividends received by a non-U.S. holder that are effectively connected with its conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States) are generally exempt from such withholding tax if the non-U.S. holder satisfies certain certification and disclosure requirements. In order to obtain this exemption, the non-U.S. holder must provide us with an IRS Form W-8ECI or other applicable IRS Form W-8 properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, are taxed at the same graduated U.S. federal income tax rates applicable to U.S. holders, net of certain deductions and credits. In addition, dividends received by a corporate non-U.S. holder that are effectively connected with its conduct of a U.S. trade or business may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty. Non-U.S. holders should consult their own tax advisors regarding any applicable tax treaties that may provide for different rules.

Any distribution not constituting a dividend will be treated first as reducing (but not below zero) the non-U.S. holder's adjusted tax basis in its common stock and, to the extent such distribution exceeds the non-U.S. holder's adjusted tax basis, as gain realized from the sale or other disposition of the common stock, which will be treated as described under "Gain on Sale, Exchange, or Other Taxable Disposition of Common Stock" below.

Gain on Sale, Exchange, or Other Taxable Disposition of Common Stock

Subject to the discussion below regarding backup withholding and foreign accounts, a non-U.S. holder generally will not be required to pay U.S. federal income tax on any gain realized upon the sale, exchange or other taxable disposition of our Common Stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States);
- the non-U.S. holder is a non-resident alien individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met; or
- shares of our common stock constitute U.S. real property interests by reason of our status as a "United States real property holding corporation" (a USRPHC) for U.S. federal income tax purposes.

If the non-U.S. holder is described in the first bullet above, it will be required to pay tax on the net gain derived from the sale, exchange or other taxable disposition under regular graduated U.S. federal income tax rates, and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a rate of 30%, or (in each case) such lower rate as may be specified by an applicable income tax treaty.

An individual non-U.S. holder described in the second bullet above will be required to pay a flat 30% tax (or such lower rate specified by an applicable income tax treaty) on the gain derived from the sale, exchange or other taxable disposition, which gain may be offset by U.S. source capital losses for the year (provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses).

With respect to the third bullet point above, we believe that we are not currently and will not become a USRPHC for U.S. federal income tax purposes, and the remainder of this discussion so assumes. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our common stock is regularly traded on an established securities market, such common stock will be treated as U.S. real property interests only if the non-U.S. holder actually or constructively hold more than five percent of such regularly traded common stock at any time during the shorter of the five-year period preceding the non-U.S. holder's disposition of, or the non-U.S. holder's holding period for, our common stock.

Non-U.S. holders should consult their own tax advisors regarding any applicable income tax or other treaties that may apply.

Federal Estate Tax

Common stock beneficially owned by an individual who is not a citizen or resident of the United States (as defined for U.S. federal estate tax purposes) at the time of their death will generally be includable in the decedent's gross estate for U.S. federal estate tax purposes. Such shares, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax treaty provides otherwise.

Backup Withholding and Information Reporting

Payments of dividends on our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E, or W-8ECI, or otherwise establishes an exemption. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a United States person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Generally, we must report annually to the IRS the amount of dividends paid to you, your name and address, and the amount of tax withheld, if any. A similar report will be sent to you. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in your country of residence. A non-U.S. holder may have to comply with certification procedures to establish that it is not a United States person in order to avoid information reporting and backup withholding requirements. The certification procedures required to claim a reduced rate of withholding under a treaty generally will satisfy the certification requirements necessary to avoid the backup withholding as well for example, by properly certifying your non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E or other applicable IRS Form W-8. Notwithstanding the foregoing, backup withholding and information reporting may apply if either we or our paying agent has actual knowledge, or reason to know, that you are a U.S. person.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance

The Foreign Account Tax Compliance Act generally imposes withholding tax at a rate of 30% on dividends on and gross proceeds from the sale or other disposition of our securities paid to a "foreign financial institution" (as specially defined under these rules), unless any such institution (1) enters into, and complies with, an agreement with the IRS to report, on an annual basis, information with respect to interests in, and accounts maintained by, the institution that are owned by certain U.S. persons and by certain non-U.S. entities that are wholly or partially owned by U.S. persons and to withhold on certain payments, or (2) if required under an intergovernmental agreement between the United States and an applicable foreign country, reports such information to its local tax authority, which will exchange such information with the U.S. authorities. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Accordingly, the entity through which our securities are held will affect the determination of whether such withholding is required. Similarly, dividends in respect of our securities held by an investor that is a non-financial non-U.S. entity that does not qualify under certain exceptions will generally be subject to withholding at a rate of 30%, unless such entity either (1) certifies to us or the applicable withholding agent that such entity does not have any "substantial United States owners" or (2) provides certain information regarding the entity's "substantial United States owners," which will in turn be provided to the U.S. Department of Treasury. Non-U.S. holders should consult their own tax advisors regarding the possible implications of this legislation on their investment in our securities.

Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state, and local and non-U.S. tax consequences of purchasing, owning, and disposing of our securities, including the consequences of any proposed changes in applicable laws.

UNDERWRITING

We intend to enter into an underwriting agreement with Lake Street Capital Markets, LLC acting as the representative of the several underwriters (the “Representative”) listed in the table below. We refer to the several underwriters listed in the table below as the “underwriters.” Subject to the terms and conditions of the underwriting agreement, we will agree to sell to the underwriters, and the underwriters will agree to purchase from us, shares of our common stock. Our common stock is currently traded on the TSX under the symbol “BCHT” and quoted on the OTCQB operated by OTC Markets Group Inc. under the symbol “BCHT”. In connection with this offering, we will apply to list our common stock on NYSE American under the symbol “BCHT”.

Pursuant to the terms and subject to the conditions contained in the underwriting agreement, we have agreed to sell to the underwriters named below, and each underwriter severally has agreed to purchase from us, the respective number of shares of common stock set forth opposite its name below:

Underwriter	Number of Shares of Common Stock
Lake Street Capital Markets, LLC	
Janney Montgomery Scott LLC	
Total	

The underwriting agreement will provide that the obligation of the underwriters to purchase the shares of common stock offered by this prospectus is subject to certain conditions. The underwriters will be obligated to purchase all of the shares of common stock offered hereby if any of the shares are purchased.

We will grant the Representative an option to buy up to an additional shares of common stock from us at the public offering price, less the underwriting discounts and commissions, to cover over-allotments, if any. The Representative may exercise this option at any time, in whole or in part, during the -day period after the date of this prospectus; however, the Representative may only exercise the option once.

Discounts, Commissions, and Expenses

The underwriters propose to offer the shares of common stock purchased pursuant to the underwriting agreement to the public at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$ per share. After this offering, the public offering price and concession may be changed by the underwriters. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

In connection with the sale of the common stock to be purchased by the underwriters, the underwriters will be deemed to have received compensation in the form of underwriting commissions and discounts. The underwriters’ commissions and discounts will be 7.0% of the gross proceeds of this offering, or \$ per share of common stock, based on the assumed public offering price per share set forth on the cover page of this prospectus.

We have also agreed to reimburse Lake Street Capital Markets, LLC at closing for reasonable and documented out-of-pocket expenses, including legal expenses incurred by it in connection with the offering up to a maximum of \$180,000. In the event that this offering does not close within three months from September 10, 2025, then such reimbursement shall be up to a maximum amount of \$50,000.

The following table shows the underwriting discounts and commissions payable to the underwriters by us in connection with this offering (assuming both the exercise and non-exercise of the over-allotment option to purchase additional shares of common stock we have granted to the Representative):

	Per Share		Total	
	Without Over- allotment	With Over- allotment	Without Over- allotment	With Over- allotment
Public offering price	\$	\$		
Underwriting discounts and commissions paid by us	\$	\$		

Indemnification

Pursuant to the underwriting agreement, we have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriters or such other indemnified parties may be required to make in respect of those liabilities.

Lock-Up Agreements

We have agreed not to (i) offer, pledge, issue, sell, contract to sell, purchase, contract to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock; (ii) enter into any swap or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of shares of common stock; or (iii) file any registration statement with the SEC relating to the offering of any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock, without the prior written consent of the Representative, for a period of days following the date of this prospectus, (the “Lock-up Period”). This consent may be given at any time without public notice. These restrictions on future issuances are subject to exceptions for (i) the issuance of shares of our common stock sold in this offering, (ii) the issuance of shares of our common stock upon the exercise of outstanding options or warrants and the vesting of restricted stock awards or units, (iii) the issuance of employee stock options not exercisable during the Lock-up Period and the grant, redemption or forfeiture of restricted stock awards or restricted stock units pursuant to our equity incentive plans or as new employee inducement grants and (iv) the issuance of common stock or warrants to purchase common stock in connection with mergers or acquisitions of securities, businesses, property or other assets, joint ventures, strategic alliances, equipment leasing arrangements or debt financing.

In addition, each of our directors and executive officers have entered into a lock-up agreement with the underwriters. Under the lock-up agreements, the directors and executive officers may not, directly or indirectly, sell, offer to sell, contract to sell, or grant any option for the sale (including any short sale), grant any security interest in, pledge, hypothecate, hedge, establish an open “put equivalent position” (within the meaning of Rule 16a-1(h) under the Exchange Act), or otherwise dispose of, or enter into any transaction which is designed to or could be expected to result in the disposition of, any shares of our common stock or securities convertible into or exchangeable for shares of our common stock, or publicly announce any intention to do any of the foregoing, without the prior written consent of the Representative, for a period of days from the closing date of this offering, subject to an -day extension under certain circumstances. This consent may be given at any time without public notice. These restrictions on future dispositions by our directors and executive officers are subject to exceptions for (i) one or more bona fide gift transfers of securities to immediate family members who agree to be bound by these restrictions and (ii) transfers of securities to one or more trusts for bona fide estate planning purposes. Each officer and director shall be immediately and automatically released from all restrictions and obligations under the lock up agreement in the event that he or she ceases to be a director or officer of our company and has no further reporting obligations under Section 16 of the Exchange Act.

Determination of Offering Price

The actual offering price of the securities will be negotiated between us, the underwriter and the investors in the offering based on the trading of our shares of common stock prior to the offering, among other things. Other factors to be considered in determining the public offering price of the securities we are offering, include our history and prospects, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, the general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

Electronic Distribution

This prospectus may be made available in electronic format on websites or through other online services maintained by the underwriters or by their affiliates. In those cases, prospective investors may view offering terms online and prospective investors may be allowed to place orders online. Other than this prospectus in electronic format, the information on the underwriters' websites or our website and any information contained in any other websites maintained by the underwriters or by us (which is not part of this prospectus or the registration statement of which this prospectus forms a part) has not been approved and/or endorsed by us or the underwriter in its capacity as underwriter, and should not be relied upon by investors.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions and penalty bids in accordance with Regulation M under the Exchange Act:

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- Over-allotment involves sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. The underwriters may close out any covered short position by either exercising their over-allotment option and/or purchasing shares in the open market.
- Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. A naked short position occurs if the underwriters sell more shares than could be covered by the over-allotment option. This position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
- Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be discontinued at any time.

Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our shares of common stock. In addition, neither we nor the underwriters make any representation that the underwriter will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

Offer Restrictions Outside the United States

Other than in the United States, no action has been taken by us or the underwriter that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required.

The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to this offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

This prospectus is not a disclosure document under Chapter 6D of the Australian Corporations Act, has not been lodged with the Australian Securities and Investments Commission and does not purport to include the information required of a disclosure document under Chapter 6D of the Australian Corporations Act. Accordingly, (i) the offer of the securities under this prospectus is only made to persons to whom it is lawful to offer the securities without disclosure under Chapter 6D of the Australian Corporations Act under one or more exemptions set out in section 708 of the Australian Corporations Act, (ii) this prospectus is made available in Australia only to those persons as set forth in clause (i) above, and (iii) the offeree must be sent a notice stating in substance that by accepting this offer, the offeree represents that the offeree is such a person as set forth in clause (i) above, and, unless permitted under the Australian Corporations Act, agrees not to sell or offer for sale within Australia any of the securities sold to the offeree within 12 months after its transfer to the offeree under this prospectus.

Canada

The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws. Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor. Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriter is not required to comply with the disclosure requirements of NI33-105 regarding underwriter conflicts of interest in connection with this offering.

China

The information in this document does not constitute a public offer of the securities, whether by way of sale or subscription, in the People's Republic of China (excluding, for purposes of this paragraph, Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan). The securities may not be offered or sold directly or indirectly in the PRC to legal or natural persons other than directly to "qualified domestic institutional investors."

European Economic Area - Belgium, Germany, Luxembourg and Netherlands

The information in this document has been prepared on the basis that all offers of securities will be made pursuant to an exemption under the Directive 2003/71/EC ("Prospectus Directive"), as implemented in Member States of the European Economic Area (each, a "Relevant Member State"), from the requirement to produce a prospectus for offers of securities.

An offer to the public of securities has not been made, and may not be made, in a Relevant Member State except pursuant to one of the following exemptions under the Prospectus Directive as implemented in that Relevant Member State:

- to legal entities that are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- to any legal entity that has two or more of (i) an average of at least 250 employees during its last fiscal year; (ii) a total balance sheet of more than €43,000,000 (as shown on its last annual unconsolidated or consolidated financial statements) and (iii) an annual net turnover of more than €50,000,000 (as shown on its last annual unconsolidated or consolidated financial statements);
- to fewer than 100 natural or legal persons (other than qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive) subject to obtaining our prior consent or any underwriter for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall require us to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

France

This document is not being distributed in the context of a public offering of financial securities (offre au public de titres financiers) in France within the meaning of Article L.411-1 of the French Monetary and Financial Code (Code monétaire et financier) and Articles 211-1 et seq. of the General Regulation of the French Autorité des marchés financiers ("AMF"). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France.

This document and any other offering material relating to the securities have not been, and will not be, submitted to the AMF for approval in France and, accordingly, may not be distributed or caused to be distributed, directly or indirectly, to the public in France.

Such offers, sales and distributions have been and shall only be made in France to (i) qualified investors (investisseurs qualifiés) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2 and D.411-1 to D.411-3, D. 744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation and/or (ii) a restricted number of non-qualified investors (cercle restreint d'investisseurs) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-4, D.744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation.

Pursuant to Article 211-3 of the General Regulation of the AMF, investors in France are informed that the securities cannot be distributed (directly or indirectly) to the public by the investors otherwise than in accordance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 to L.621-8-3 of the French Monetary and Financial Code.

Ireland

The information in this document does not constitute a prospectus under any Irish laws or regulations and this document has not been filed with or approved by any Irish regulatory authority as the information has not been prepared in the context of a public offering of securities in Ireland within the meaning of the Irish Prospectus (Directive 2003/71/EC) Regulations 2005 (the "Prospectus Regulations"). The securities have not been offered or sold, and will not be offered, sold or delivered directly or indirectly in Ireland by way of a public offering, except to (i) qualified investors as defined in Regulation 2(l) of the Prospectus Regulations and (ii) fewer than 100 natural or legal persons who are not qualified investors.

Israel

The securities offered by this prospectus have not been approved or disapproved by the Israeli Securities Authority (the ISA), or ISA, nor have such securities been registered for sale in Israel. The shares may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus. The ISA has not issued permits, approvals or licenses in connection with this offering or publishing the prospectus; nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the securities being offered. Any resale in Israel, directly or indirectly, to the public of the securities offered by this prospectus is subject to restrictions on transferability and must be effected only in compliance with the Israeli securities laws and regulations.

Italy

The offering of the securities in the Republic of Italy has not been authorized by the Italian Securities and Exchange Commission (Commissione Nazionale per le Società e la Borsa, “CONSOB”) pursuant to the Italian securities legislation and, accordingly, no offering material relating to the securities may be distributed in Italy and such securities may not be offered or sold in Italy in a public offer within the meaning of Article 1.1(t) of Legislative Decree No. 58 of 24 February 1998 (“Decree No. 58”), other than:

- to Italian qualified investors, as defined in Article 100 of Decree no. 58 by reference to Article 34-ter of CONSOB Regulation no. 11971 of 14 May 1999 (“Regulation no. 11971”) as amended (“Qualified Investors”); and
- in other circumstances that are exempt from the rules on public offer pursuant to Article 100 of Decree No. 58 and Article 34-ter of Regulation No. 11971 as amended.

Any offer, sale or delivery of the securities or distribution of any offer document relating to the securities in Italy (excluding placements where a Qualified Investor solicits an offer from the issuer) under the paragraphs above must be:

- made by investment firms, banks or financial intermediaries permitted to conduct such activities in Italy in accordance with Legislative Decree No. 385 of 1 September 1993 (as amended), Decree No. 58, CONSOB Regulation No. 16190 of 29 October 2007 and any other applicable laws; and
- in compliance with all relevant Italian securities, tax and exchange controls and any other applicable laws.

Any subsequent distribution of the securities in Italy must be made in compliance with the public offer and prospectus requirement rules provided under Decree No. 58 and the Regulation No. 11971 as amended, unless an exception from those rules applies. Failure to comply with such rules may result in the sale of such securities being declared null and void and in the liability of the entity transferring the securities for any damages suffered by the investors.

Japan

The securities have not been and will not be registered under Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948), as amended (the “FIEL”) pursuant to an exemption from the registration requirements applicable to a private placement of securities to Qualified Institutional Investors (as defined in and in accordance with Article 2, paragraph 3 of the FIEL and the regulations promulgated thereunder). Accordingly, the securities may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan other than Qualified Institutional Investors. Any Qualified Institutional Investor who acquires securities may not resell them to any person in Japan that is not a Qualified Institutional Investor, and acquisition by any such person of securities is conditional upon the execution of an agreement to that effect.

New Zealand

The shares of common stock offered hereby have not been offered or sold, and will not be offered or sold, directly or indirectly in New Zealand and no offering materials or advertisements have been or will be distributed in relation to any offer of shares in New Zealand, in each case other than:

- to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money;

- to persons who in all the circumstances can properly be regarded as having been selected otherwise than as members of the public;
- to persons who are each required to pay a minimum subscription price of at least NZ\$500,000 for the shares before the allotment of those shares (disregarding any amounts payable, or paid, out of money lent by the issuer or any associated person of the issuer); or
- in other circumstances where there is no contravention of the Securities Act 1978 of New Zealand (or any statutory modification or reenactment of, or statutory substitution for, the Securities Act 1978 of New Zealand).

Portugal

This document is not being distributed in the context of a public offer of financial securities (oferta pública de valores mobiliários) in Portugal, within the meaning of Article 109 of the Portuguese Securities Code (Código dos Valores Mobiliários). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in Portugal. This document and any other offering material relating to the securities have not been, and will not be, submitted to the Portuguese Securities Market Commission (Comissão do Mercado de Valores Mobiliários) for approval in Portugal and, accordingly, may not be distributed or caused to be distributed, directly or indirectly, to the public in Portugal, other than under circumstances that are deemed not to qualify as a public offer under the Portuguese Securities Code. Such offers, sales and distributions of securities in Portugal are limited to persons who are “qualified investors” (as defined in the Portuguese Securities Code). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Sweden

This document has not been, and will not be, registered with or approved by Finansinspektionen (the Swedish Financial Supervisory Authority). Accordingly, this document may not be made available, nor may the securities be offered for sale in Sweden, other than under circumstances that are deemed not to require a prospectus under the Swedish Financial Instruments Trading Act (1991:980) (Sw. lag (1991:980) om handel med finansiella instrument). Any offering of securities in Sweden is limited to persons who are “qualified investors” (as defined in the Financial Instruments Trading Act). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (“SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering material relating to the securities may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering material relating to the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority (FINMA).

This document is personal to the recipient only and not for general circulation in Switzerland.

United Arab Emirates

Neither this document nor the securities have been approved, disapproved or passed on in any way by the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates, nor have we received authorization or licensing from the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates to market or sell the securities within the United Arab Emirates. This document does not constitute and may not be used for the purpose of an offer or invitation. We may not render services relating to the securities within the United Arab Emirates, including the receipt of applications and/or the allotment or redemption of such shares.

No offer or invitation to subscribe for securities is valid or permitted in the Dubai International Financial Centre.

United Kingdom

Neither the information in this document nor any other document relating to the offer has been delivered for approval to the Financial Services Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended ("FSMA")) has been published or is intended to be published in respect of the securities. This document is issued on a confidential basis to "qualified investors" (within the meaning of section 86(7) of FSMA) in the United Kingdom, and the securities may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) FSMA. This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received in connection with the issue or sale of the securities has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of FSMA does not apply us.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 ("FPO"), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (together "relevant persons"). The investments to which this document relates are available only to, and any invitation, offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Sheppard, Mullin, Richter & Hampton LLP. Certain legal matters relating to this offering will be passed upon for the underwriters by Sullivan & Worcester LLP, New York, New York.

EXPERTS

The consolidated financial statements of Birchtech Corp. as of December 31, 2024 and 2023 and for the years then ended incorporated by reference herein, have been so incorporated in reliance on the report of Rosenberg Rich Baker Berman, P.A., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (File Number 333-) under the Securities Act with respect to the common stock that we are offering by this prospectus. This prospectus does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements, or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement, or other document.

Upon the completion of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly, and current reports, proxy statements, and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at www.sec.gov. We also maintain a website at <http://www.birchtech.com>. The information contained in or accessible from our website is not incorporated into this prospectus, and you should not consider it part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference. Upon completion of the offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Birchtech Corp.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Birchtech Corp (the Company) as of December 31, 2024 and 2023, and the related consolidated statements of operations, stockholders' deficit, and cash flows for the two years in the period ended December 31, 2024, and the related notes (collectively referred to as the financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for the two years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

Restatement of Prior Periods

As discussed in Note 2, the December 31, 2023 consolidated financial statements have been restated to correct a misstatement.

Emphasis of Matter Regarding Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 3 to the financial statements, the Company has identified conditions, including a net loss and net cash used in operations, that raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are described in Note 3. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Valuation of Profit Share Liability

Description of the Matter

As of December 31, 2024, the Company recorded a profit share liability of \$6.85 million. As discussed in Note 8 to the financial statements, the Company entered into a profit participation preference (the “profit share liability”) with AC Midwest Energy LLC as part of its Unsecured Note Financing Agreement. The Company calculates the fair value of the profit share liability on a quarterly basis utilizing management estimates. The fair value of the profit share liability is calculated using a discounted cash flow model based on estimated future cash payments. The fair value of the profit share liability is determined on a Level 3 measurement.

Inherent in the valuation of Level 3 financial instruments are certain significant judgments and estimates related to forecasted cash flows. Changes in these assumptions can significantly impact the valuation of the profit share liability and the gain or loss on change in fair value that is recorded. This required a high degree of auditor judgment and an increased extent of effort when performing audit procedures to evaluate the reasonableness of management’s forecasted cash flows.

How We Addressed the Critical Audit Matter in Our Audit

To test the profit share liability calculation as of December 31, 2024, we performed the following procedures among others, by which we:

- Obtained and reviewed the Unsecured Note Agreement and evaluated management’s assessment of the terms of the agreement.
- Evaluated the assumptions regarding the probabilities related to the timing and amount of cash flows by comparing historical information and current events.
- Utilized our internal valuation specialist to assist in the assessment of the appropriateness of the valuation methodology and the reasonableness of the discount rate applied, including consideration of conditions affecting market rates.
- Tested the clerical accuracy of the profit share liability calculation.

/s/ Rosenberg Rich Baker Berman, P.A.

We have served as the Company’s auditor since 2023.

Somerset, New Jersey

March 31, 2025

BIRCHTECH CORP. AND SUBSIDIARIES
 (formerly Midwest Energy Emissions Corp.)
CONSOLIDATED BALANCE SHEETS

	December 31, 2024	December 31, 2023 (as restated)
ASSETS		
Current assets		
Cash	\$ 3,456,082	\$ 20,939,762
Accounts receivable	1,823,232	3,076,462
Inventory	621,813	795,164
Prepaid expenses and other assets	198,185	183,621
Total current assets	<u>6,099,312</u>	<u>24,995,009</u>
Security deposits	6,615	5,175
Property and equipment, net	2,350,688	1,595,958
Right of use asset - operating lease	305,142	10,639
Intellectual property, net	1,499,463	1,704,063
Total assets	<u>\$ 10,261,220</u>	<u>\$ 28,310,844</u>
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities		
Accounts payable and accrued expenses (related party \$37,500 and \$107,454 at December 31, 2024 and December 31, 2023, respectively)	\$ 1,702,998	\$ 1,558,450
Income tax payable	-	437,821
Current portion of operating lease liability	42,733	11,157
Customer credits	167,000	167,000
Accrued salaries	39,280	8,936
Profit share liability – related party	6,853,858	-
Total current liabilities	<u>8,805,869</u>	<u>2,183,364</u>
Operating lease liability, net of current portion	263,490	-
Secured note payable, net of discount – related party	-	239,466
Unsecured note payable, net of discount and issuance costs – related party	-	10,979,723
Profit share liability – related party	-	14,847,937
Total liabilities	<u>9,069,359</u>	<u>28,250,490</u>
Commitments and contingencies (Note 10)		
Stockholders' equity (deficit)		
Preferred stock, \$0.001 par value: 2,000,000 shares authorized, no shares issued	-	-
Common stock, \$0.001 par value; 150,000,000 shares authorized 96,178,153 and 94,360,107 shares issued and outstanding as of December 31, 2024 and December 31, 2023 respectively.	96,178	94,360
Additional paid-in capital	73,848,919	61,917,119
Accumulated deficit	(72,753,236)	(61,951,125)
Total stockholders' equity (deficit)	<u>1,191,861</u>	<u>60,354</u>
Total liabilities and stockholders' equity (deficit)	<u>\$ 10,261,220</u>	<u>\$ 28,310,844</u>

See accompanying notes to these consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
 (formerly Midwest Energy Emissions Corp.)
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023 (as restated)
Product revenue	\$ 14,481,784	\$ 17,092,996
License revenue	2,808,125	387,500
Other revenue	116,276	144,874
Revenues	\$ 17,406,185	\$ 17,625,370
Cost of sales	(10,305,076)	(12,172,374)
Gross profit	7,101,109	5,452,996
Operating expenses:		
Impairment loss	(43,000)	(219,707)
Selling, general and administrative expenses (related party of \$1,116,064 and \$554,410)	(14,216,377)	(14,206,761)
Total operating expenses	(14,259,377)	(14,426,468)
Operating loss	(7,158,268)	(8,973,472)
Other income (expense)		
Income from legal claims	-	27,607,776
Interest expense (related party of \$245,724 and \$1,360,623)	(267,458)	(1,362,401)
Loss on change in fair value of profit share and unsecured note	(3,959,065)	(11,209,677)
Interest income	293,524	79,301
Total other (expense) income	(3,932,999)	15,114,999
(Loss) income before provision for income taxes	(11,091,267)	6,141,527
Income tax benefit (expense)	289,156	(473,213)
Net (loss) income	\$ (10,802,111)	\$ 5,668,314
Basic & Diluted (loss) income per share:		
Basic net (loss) income per share	\$ (0.11)	\$ 0.06
Diluted net (loss) income per share	\$ (0.11)	\$ 0.06
Weighted average common shares outstanding:		
Basic	95,290,548	94,171,695
Diluted	95,290,548	97,452,397

See accompanying notes to these consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
 (formerly Midwest Energy Emissions Corp.)
CONSOLIDATED STATEMENT OF STOCKHOLDERS' DEFICIT

	Year Ended December 31, 2024					
	Common Stock		Additional		Accumulated (Deficit)	Total
	Shares	Par Value	Paid-in Capital	(Deficit)		
Balance - January 1, 2024 (as restated)	94,360,107	\$ 94,360	\$ 61,917,119	\$ (61,951,125)	\$ 60,354	
Stock issued for cashless exercise of options	1,706,194	1,706	(1,706)		-	-
Stock issued for exercise of warrants	25,000	25	17,475		-	17,500
Stock issued for cashless exercise of warrants	86,852	87	(87)		-	-
Gain on modification of related party debt	-	-	10,827,195		-	10,827,195
Share based payments	-	-	1,088,923		-	1,088,923
Net loss	-	-	-	-	(10,802,111)	(10,802,111)
Balance – December 31, 2024	96,178,153	\$ 96,178	\$ 73,848,919	\$ (72,753,236)	\$ 1,191,861	

	Year Ended December 31, 2023					
	Common Stock		Additional		Accumulated Deficit	Total
	Shares	Par Value	Paid-in Capital	(Deficit)		
Balance – January 1, 2023 (as previously reported)	93,087,796	\$ 93,088	\$ 61,188,442	\$ (68,698,389)	\$ (7,416,859)	
Restatement adjustment	-	-	-	-	1,078,950	1,078,950
Balance – January 1, 2023 (as restated)	93,087,796	\$ 93,088	\$ 61,188,442	\$ (67,619,439)	\$ (6,337,909)	
Share based compensation expense	-	-	520,449		-	520,449
Stock issued for cashless exercise of options	422,311	422	(422)		-	-
Stock issued for cash exercise of options	850,000	850	208,650		-	209,500
Net income	-	-	-	-	5,668,314	5,668,314
Balance December 31, 2023 (as restated)	94,360,107	\$ 94,360	\$ 61,917,119	\$ (61,951,125)	\$ 60,354	

See accompanying notes to these consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
 (formerly Midwest Energy Emissions Corp.)
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the year Ended December 31, 2024	For the year Ended December 31, 2023 (as restated)
Cash flows from operating activities		
Net (loss) income	\$ (10,802,111)	\$ 5,668,314
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Stock-based compensation – amortization of prepaid services	-	486,667
Stock-based compensation	1,088,923	33,782
Amortization of discount of notes payable	241,444	1,336,171
Amortization of right to use assets	31,782	40,924
Amortization of patent rights	204,600	205,534
Depreciation expense	11,702	12,927
Impairment loss	43,000	219,707
Non-cash interest revenue	(57,191)	(79,301)
Loss on change in fair value of profit share	3,959,065	11,209,677
Changes in operating assets and liabilities		
Accounts receivable	1,310,421	859,396
Inventory	173,351	195,967
Prepaid expenses and other assets	(16,004)	88,772
Accrued salaries	30,344	(58,542)
Accounts payable and accrued liabilities	144,547	(1,388,385)
Income tax payable	(437,821)	437,821
Operating lease liability	(31,219)	(43,394)
Net cash (used in) provided by operating activities	(4,105,167)	19,226,037
Cash flows used in investing activities		
Purchase of property and equipment	(809,432)	-
Net cash used in investing activities	(809,432)	-
Cash flows from financing activities		
Proceeds from exercise of stock options	17,500	209,500
Repayment of secured notes payable	(271,686)	-
Repayment of unsecured notes payable	(12,314,895)	(12,569,081)
Net cash (used in) provided by financing activities	209,500	209,500
Net (decrease) increase in cash and cash equivalents	(17,483,680)	19,435,537
Cash and cash equivalents - beginning of period	20,939,762	1,504,225
Cash and cash equivalents - end of period	\$ 3,456,082	\$ 20,939,762
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid during the period for:		
Interest	\$ 4,023	\$ 19,721
Income taxes	\$ 143,269	\$ -
SUPPLEMENTAL DISCLOSURE OF NON-CASH TRANSACTIONS		
Capital from related party debt extinguishments	\$ 10,827,195	\$ -
Recognition of ROU asset and operating lease liability	\$ 326,285	\$ -

See accompanying notes to these consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
(formerly Midwest Energy Emissions Corp.)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2024

Note 1 - Organization

Birchtech Corp. and MES, Inc.

Birchtech Corp., formerly Midwest Energy Emissions Corp. (together with its consolidated subsidiaries, the “Company”), is organized under the laws of the State of Delaware. Effective on October 17, 2024, Midwest Energy Emissions Corp. changed its corporate name to Birchtech, Inc. pursuant to a certificate of amendment to its certificate of incorporation filed with the State of Delaware. MES, Inc. is incorporated in the State of North Dakota. MES, Inc. is a wholly owned subsidiary of Birchtech Corp. The Company is a provider of specialty activated carbon technologies and provides patented sorbent technologies for mercury emissions capture for the coal-fired utility sector and is developing water purification technologies with a specialization on forever chemicals such as PFAS and PFOS.

ME2C Sponsor LLC and ME2C Acquisition Corp.

ME2C Sponsor LLC is a limited liability company formed in the State of Delaware and is a wholly owned subsidiary of Birchtech Corp. and owns 85% of ME2C Acquisition Corp. A decision was made in January 2023 to liquidate these entities which are inactive.

Note 2 – Restatement of Previously Issued Financial Statements

Description of Restatement Adjustments

In connection with the preparation of the Company’s consolidated financial statements as of and for the period ended December 31, 2024, management identified an error in the previously reported financial statements related to the recognition of revenue during the year ended December 31, 2022. The Company entered into a license agreement for which it should have recognized the entire proceeds receivable pursuant to the agreement as revenue during the year ended December 31, 2022. The Company should also have recognized the financing component of the licensing agreement during the fiscal years ended December 31, 2023 and 2024. As a result, the consolidated financial statements reflect the recognition of this additional revenue during the year ended December 31, 2022, removes the revenue recognized and records the financing component of the arrangement during annual and interim periods in the fiscal year ending December 31, 2023 and the interim periods in the fiscal year ending December 31, 2024.

The following tables reflect the impact of the restatement to the specific line items presented in the Company’s previously reported consolidated financial statements as of December 31, 2022 and for the year ended December 31, 2023. The accompanying applicable notes to consolidated financial statements have been updated to reflect the effects of the restatement.

The impact of the restatement to the consolidated statements of stockholders’ equity (deficit) includes a decrease of \$843,251 in accumulated deficit as of December 31, 2023 and a \$1,078,950 decrease to the accumulated deficit as of January 1, 2023.

The amounts in the “As previously reported” columns are amounts derived from the Company’s previously filed consolidated financial statements. The amounts in the “Restatement adjustments” columns present the impact of the following adjustments:

- The recognition of the licensing revenue during the year ended December 31, 2022.
- The removal of the licensing revenue recorded during the year ended December 31, 2023.
- The recording of the financing component during the year ended December 31, 2023.

The amounts in the “As restated” columns are the updated amounts including the impacts from the restatement.

Audited Financial Statements

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of December 31, 2023:

CONSOLIDATED BALANCE SHEETS

	DECEMBER 31, 2023		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 2,233,211	\$ 843,251	\$ 3,076,462
Total current assets	24,151,758	843,251	24,995,009
Total assets	27,467,593	843,251	28,310,844
Stockholders' equity (deficit)			
Accumulated deficit	(62,794,376)	843,251	(61,951,125)
Total stockholders' equity (deficit)	(782,897)	843,251	60,354
Total liabilities and stockholders' equity (deficit)	\$ 27,467,593	\$ 843,251	\$ 28,310,844

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the year ended December 31, 2023:

CONSOLIDATED STATEMENT OF OPERATIONS

	FOR THE YEAR ENDED DECEMBER 31, 2023		
	As previously reported	Adjustment	As restated
Revenue	\$ 17,940,370	\$ (315,000)	\$ 17,625,370
Gross Profit	5,767,996	(315,000)	5,452,996
Operating (loss) income	(8,658,472)	(315,000)	(8,973,472)
Interest income	-	79,301	79,301
Total other income	15,035,698	79,301	15,114,999
Income (loss) before provision for income taxes	6,377,226	(235,699)	6,141,527
Net income (loss)	\$ 5,904,013	\$ (235,699)	\$ 5,668,314
Net loss per common share - basic and diluted:	\$ 0.06	\$ -	\$ 0.06

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statements of Changes in Stockholder's Equity for the years ended December 31, 2023 and 2022:

	Accumulated Deficit		
	As Reported	Adjustment	As Restated
Balance – January 1, 2022	\$ (67,116,913)	\$ -	\$ (67,116,913)
Net loss	(1,581,476)	1,078,950	(502,526)
Balance December 31, 2022	(68,698,389)	1,078,950	(67,619,439)
Net income	5,904,013	(235,699)	5,668,314
Balance December 31, 2023	\$ (62,794,376)	\$ (843,251)	\$ (61,951,125)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the year ended December 31, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE YEAR ENDED DECEMBER 31, 2023		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ 5,904,013	\$ (235,699)	\$ 5,668,314
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(79,301)	(79,301)
Changes in operating assets and liabilities			
Accounts receivable	544,396	315,000	859,396
Net cash provided by operating activities	\$ 19,226,037	\$ -	\$ 19,226,037

Note 3 – Going Concern and Financial Condition

Under ASC 205-40, *Presentation of Financial Statements—Going Concern*, the Company has the responsibility to evaluate whether conditions and/or events raise substantial doubt about its ability to meet its future financial obligations as they become due within one year after the date that the financial statements are issued. As required by ASC 205-40, this evaluation shall initially not take into consideration the potential mitigating effects of plans that have not been fully implemented as of the date the financial statements are issued. Management has assessed the Company's ability to continue as a going concern in accordance with the requirements of ASC 205-40.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. As reflected in the consolidated financial statements, the Company had a net loss of approximately \$10.8 million and cash used in operating activities of approximately \$4.1 million for the year ended December 31, 2024; had cash of approximately \$3.5 million at December 31, 2024; and an accumulated deficit of approximately \$72.8 million at December 31, 2024. The Company's working capital deficiency at December 31, 2024 was approximately \$2.7 million. The aforementioned factors raise substantial doubt about the Company's ability to continue as a going concern within one year from the issuance date of the financial statements.

In addition to maintaining its revenue stream from its legacy mercury emissions control business, the Company's plans and expectations over the next twelve months to mitigate such financial condition include receiving additional cash inflows from the judgment expected in connection with the \$57.1 million jury verdict awarded to the Company in March 2024, additional licensing revenues and product sales from the other patent litigation recently commenced, and revenues from the Company's entry into the water treatment business. During 2024, the Company opened two new state of the art laboratories and have added personnel to support our entry into the water business which the Company believes will lead to a vibrant new revenue stream. In addition, management is exploring additional financing opportunities. While management believes these plans will alleviate substantial doubt, there is no assurance that they will be successfully realized or implemented.

The accompanying consolidated financial statements do not include any adjustments relating to the recoverability and classification of asset amounts or the classification of liabilities that might be necessary should the Company be unable to continue as a going concern within one year after the date the financial statements are issued.

Note 4 - Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and pursuant to the rules and regulations promulgated by the United States Securities and Exchange Commission ("SEC").

Principles of Consolidation

The consolidated financial statements include the accounts of Birchtech Corp. (formerly Midwest Energy Emissions Corp.) and its wholly-owned subsidiaries, MES, Inc. and ME2C Sponsor LLC, and ME2C Acquisition Corp. which is 85% owned by ME2C Sponsor LLC. Intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, valuation of equity issuances and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. The Company uses estimates in accounting for, among other items, profit share liability, revenue recognition, allowance for credit losses, stock-based compensation, income tax provisions, excess and obsolete inventory reserve and impairment of intellectual property. Actual results could differ from those estimates.

Inventory

Inventories are stated at the lower of cost (first-in, first-out basis) or net realizable value. Inventories are periodically evaluated to identify obsolete or otherwise impaired products and are written off when management determines usage is not probable. The Company estimates the balance of excess and obsolete inventory by analyzing inventory by age using last used and original purchase date and existing sales pipeline for which the inventory could be used. As of December 31, 2024 and 2023, the Company had no valuation allowance.

Property and Equipment

Property and equipment are stated at cost. When retired or otherwise disposed, the related carrying value and accumulated depreciation are removed from the respective accounts and the net difference less any amount realized from disposition, is reflected in earnings. For consolidated financial statement purposes, equipment is recorded at cost and depreciated using the straight-line method over their estimated useful lives of 2 to 5 years. Leasehold improvements are recorded at cost and depreciated using the straight-line method over the life of the lease.

Expenditures for repairs and maintenance which do not materially extend the useful lives of property and equipment are charged to operations. Management reviews the carrying value of our property and equipment for impairment on an annual basis.

Intellectual Property

Intellectual property is recorded at cost and amortized over its estimated useful life of 15 years. Management reviews intellectual property for impairment when events or changes in circumstances indicate the carrying amount of an asset or asset group may not be recoverable. In the event that impairment indicators exist, a further analysis is performed and if the sum of the expected undiscounted future cash flows resulting from the use of the asset or asset group is less than the carrying amount of the asset or asset group, an impairment loss equal to the excess of the asset or asset group's carrying value over its fair value is recorded. Management considers historical experience and all available information at the time the estimates of future cash flows are made, however, the actual cash values that could be realized may differ from those that are estimated.

Recoverability of Long-Lived and Intangible Assets

Long-lived assets and certain identifiable intangibles held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Events relating to recoverability may include significant unfavorable changes in business conditions, recurring losses or a forecasted inability to achieve break-even operating results over an extended period. The Company evaluates the recoverability of long-lived assets based upon forecasted undiscounted cash flows. Should impairment in value be indicated, the carrying value of the long-lived and/or intangible assets would be adjusted, based on estimates of future undiscounted cash flows.

The Company has evaluated the recoverability of the carrying value of the Company's property and equipment, right of use asset and intellectual property. After completing the assessment of property and equipment for impairment as of December 31, 2024 and 2023, the Company recorded an impairment expense related to property and equipment of \$43,000 (2023 - \$219,707) which is included in Impairment loss in the Company's consolidated statements of operations and comprehensive income (loss). The expense was primarily related to the impairment of construction in process costs where management determined that the undiscounted future cash flows were not sufficient to recover the carrying value of these assets over the estimated useful life.

Stock-Based Compensation

We account for stock-based compensation awards in accordance with the provisions of ASC 718, Compensation-Stock Compensation, which requires equity-based compensation, be reflected in the consolidated financial statements over the period of service which is typically the vesting period based on the estimated fair value of the awards.

Fair Value of Financial Instruments

The fair value hierarchy has three levels based on the inputs used to determine fair value, which are as follows:

- “ *Level 1* — Unadjusted quoted prices available in active markets for the identical assets or liabilities at the measurement date.
- “ *Level 2* — Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability.
- “ *Level 3* — Unobservable inputs that cannot be corroborated by observable market data and reflect the use of significant management judgment. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions.

The fair value hierarchy requires the use of observable market data when available. In instances where the inputs used to measure fair value fall into different levels of the fair value hierarchy, the fair value measurement has been determined based on the lowest level input significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular item to the fair value measurement in its entirety requires judgment, including the consideration of inputs specific to the asset or liability.

The profit share liability is the only item measured at fair value on a recurring basis by the Company at December 31, 2024 and December 31, 2023. The profit share liability is considered to be Level 3 measurements.

Financial instruments include cash, accounts receivable, accounts payable, and short-term debt. The carrying amounts of these financial instruments approximated fair value at December 31, 2024 and December 31, 2023 due to their short-term maturities.

The fair value of the notes payable at December 31, 2023 approximated the carrying amount, as the notes were recently issued at interest rates prevailing in the market. The fair value of the notes payable was determined on a Level 2 measurement. Discounts on issued debt, as well as debt issuance costs, are amortized over the term of the individual notes.

At December 31, 2024, the fair value of the profit share liability is calculated using a discounted cash flow model based on estimated future cash payments. The fair value of the profit share liability at December 31, 2023 was also calculated using a discounted cash flow model based on estimated future cash payments. At December 31, 2024 and December 31, 2023, the fair value of the profit share liability was determined on a Level 3 measurement. These values are determined using pricing models for which the assumptions utilized management's estimates. Significant unobservable inputs include a discount rate of approximately 14.55% and the projection of future cash flows.

The following tables present the Company's liabilities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy.

	Fair Value Measurement as of December 31, 2024			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Profit share liability – related party (1)	\$ 6,853,858	\$ -	\$ -	\$ 6,853,858
Total Liabilities	<u>\$ 6,853,858</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 6,853,858</u>
Fair Value Measurement as of December 31, 2023				
	Total	Level 1	Level 2	Level 3
Liabilities:				
Profit share liability – related party (1)	\$ 14,847,937	\$ -	\$ -	\$ 14,847,937
Total Liabilities	<u>\$ 14,847,937</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 14,847,937</u>

(1) See Note 8 - Related Party

The following tables present the Company's liabilities that are measured at fair value on a non-recurring basis and are categorized using the fair value hierarchy.

	Fair Value Measurement as of December 31, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
Property and equipment (Construction in progress)	\$ 1,545,000	\$ -	\$ -	\$ 1,545,000
Total Assets	<u>\$ 1,545,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 1,545,000</u>
Fair Value Measurement as of December 31, 2023				
	Total	Level 1	Level 2	Level 3
Assets:				
Property and equipment (Construction in progress)	\$ 1,588,000	\$ -	\$ -	\$ 1,588,000
Total Assets	<u>\$ 1,588,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 1,588,000</u>

Revenue Recognition

The Company records revenue in accordance with ASC 606, *Revenue from Contracts with Customers*. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve that core principle, an entity should apply the following steps:

- Step 1: Identify the contract(s) with a customer.
- Step 2: Identify the performance obligations in the contract.
- Step 3: Determine the transaction price.
- Step 4: Allocate the transaction price to the performance obligations in the contract.
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

Revenue is recognized when the Company satisfies its performance obligation under the contract by transferring the promised product to its customer that obtains control of the product. A performance obligation is a promise in a contract to transfer a distinct product to a customer. Most of the Company's contracts have a single performance obligation, as the promise to transfer products or services is not separately identifiable from other promises in the contract and, therefore, not distinct.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products. As such, revenue is recorded net of returns, allowances, customer discounts, and incentives. Sales and other taxes are excluded from revenues. Invoiced shipping and handling costs are included in revenue.

Disaggregation of Revenue

The Company generated revenue for the years ended December 31, 2024 and 2023 by (i) delivering product to its commercial customers, (ii) completing and commissioning equipment projects at commercial customer sites and (iii) performing demonstrations of its technology at customers with the intent of entering into long term supply agreements based on the performance of the Company's products during the demonstrations and (iv) licensing its technology to customers.

Revenue for product sales is recognized at the point of time in which the customer obtains control of the product, at the time title passes to the customer upon shipment or delivery of the product based on the applicable shipping terms.

Licensing revenue includes the licensing of the Company's intellectual property ("IP"). Revenue for IP rights is accounted for based on the nature of the promise to grant the license. In determining whether the Company's promise is to provide a right to access its IP or a right to use its IP, the Company considers the nature of its IP to which the customer will have rights. IP is either functional IP which has significant standalone functionality or symbolic IP which does not have significant standalone functionality. Revenue from functional IP is recognized at the point in time when control of the distinct license is transferred to the customer. Revenue from symbolic IP is recognized over the access period to the Company's IP.

The licenses provide the customer with the right to use the Company's patented technologies as they exist at a point in time when the license is granted, for the duration of the contract term. The patented technology has stand-alone functionality, and the Company has no obligation to provide any future updates. During the year ended December 31, 2024 the Company recognized \$2,773,750 (2023 - \$356,250) of revenue for licenses for which revenue was recognized at a point in time and \$34,375 (2023 - \$31,250) for licenses for which revenue was recognized over time.

When a license arrangement contains payment terms beyond one year, a significant financing component may exist. The significant financing component is calculated as the difference between the stated value and present value of the license fees and is recognized as interest income over the payment period.

Variable consideration is recorded as revenue only to the extent that a significant reversal of cumulative revenue recognized is not probable of occurring when the uncertainty associated with the variable consideration is subsequently resolved. Significant judgment is required in estimating variable consideration for the performance obligation identified in the contract and this judgment involves assessing factors outside of our influence.

Revenue for equipment sales is recognized upon commissioning and customer acceptance of the installed equipment per the terms of the purchase contract.

Revenue for demonstrations and consulting services is recognized when performance obligations contained in the contract have been completed, typically the completion of necessary field work and the delivery of any required analysis per the terms of the agreement.

The following table presents sales by operating segment disaggregated based on the type of product for the years ended December 31, 2024 and 2023. All sales were in the United States.

	December 31, 2024	December 31, 2023
Product revenue	\$ 14,481,784	\$ 17,092,996
License revenue	2,808,125	387,500
Demonstrations & Consulting revenue	36,000	90,000
Equipment revenue	80,276	54,874
	<hr/> <u>\$ 17,406,185</u>	<hr/> <u>\$ 17,625,370</u>

Accounts receivable and allowance for credit losses

Accounts receivable are presented net of an allowance for credit losses. The Company maintains allowances for credit losses. The Company reviews the accounts receivable on a periodic basis and makes general and specific allowances when there is doubt as to the collectability of individual balances. In evaluating the collectability of individual receivable balances, the Company considers many factors, including the age of the balance, a customer's payment history, its current credit-worthiness and current economic trends. Accounts are written off after exhaustive efforts at collection.

Management believed that the accounts receivable were fully collectable and no allowance for credit losses was deemed to be required on its accounts receivable at December 31, 2024. The Company historically has not experienced significant uncollectible accounts receivable. As of December 31, 2024 and December 31, 2023, the Company's allowance for credit losses was \$0, and the Company recorded \$0 of bad debt expense for both the years ended December 31, 2024 and 2023.

Income Taxes

The Company follows the asset and liability method of accounting for income taxes under FASB ASC 740, *Income Taxes*. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that included the enactment date. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

FASB ASC 740 prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more likely than not to be sustained upon examination by taxing authorities. There were no unrecognized tax benefits as of December 31, 2024 and 2023. The Company is currently not aware of any issues under review that could result in significant payments, accruals or material deviation from its position. The Company is no longer subject to tax examinations by tax authorities for the years prior to 2020.

The Company may be subject to potential examination by federal, state, and city taxing authorities in the areas of income taxes.

These potential examinations may include questioning the timing and amount of deductions, the nexus of income among various tax jurisdictions, and compliance with federal, state, and city tax laws. Management does not expect that the total amount of unrecognized tax benefits will materially change over the next twelve months.

Basic and Diluted Income (Loss) Per Common Share

Income (loss) per share – basic is calculated by dividing net income (loss) by the weighted average number of shares of stock outstanding during the year, including shares issuable without additional consideration. Income per share – assuming dilution is calculated by dividing net income by the weighted average number of shares outstanding during the year adjusted for the effect of dilutive potential shares from options and warrants calculated using the treasury stock method and the if-converted method for preferred stock. There were no dilutive potential common shares for year ended December 31, 2024, because the Company incurred a net loss and basic and diluted losses per common share are the same. There are 3,280,702 dilutive stock options and no dilutive warrants for the year ended December 31, 2023 as the Company reported net income for the period.

We calculate basic earnings per share by dividing net income by the weighted-average number of common shares outstanding during the reporting period. Diluted earnings per share reflects the effects of potentially dilutive securities. The summary of the basic and diluted earnings per share calculations for the years ended December 31, 2024 and 2023:

	2024	2023
Basic:		
Net Income (Loss)	\$ (10,802,111)	\$ 5,668,314
Weighted-average shares outstanding	95,290,548	94,171,695
Basic	<u><u>\$ (0.11)</u></u>	<u><u>\$ 0.06</u></u>
Diluted:		
Net Income (Loss)	\$ (10,802,111)	\$ 5,668,314
Weighted-average shares outstanding	95,290,548	94,171,695
Effect of diluted securities – stock options	-	3,280,702
Weighted-average shares used in the calculation of diluted earnings per share	<u><u>95,290,548</u></u>	<u><u>97,452,397</u></u>
Diluted earnings (loss) per share	<u><u>\$ (0.11)</u></u>	<u><u>\$ 0.06</u></u>

Total common stock equivalents excluded from dilutive loss per share are as follows:

	December 31, 2024	December 31, 2023
Stock Options	9,300,000	9,650,000
Warrants	-	2,550,000
Total common stock equivalents excluded from dilutive loss per share	9,300,000	12,200,000

Concentration of Credit Risk

Financial instruments that subject the Company to credit risk consist of cash and equivalents on deposit with financial institutions and accounts receivable. The Company's cash as of December 31, 2024 and December 31, 2023 is maintained at high-quality financial institutions and has not incurred any losses to date. Accounts are guaranteed by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000. At December 31, 2024, the Company had \$2,956,082 (2023 - \$20,439,762) in excess of FDIC limits.

Customer and Supplier Concentration

For the year ended December 31, 2024, three customers represented 32%, 13%, and 10% of the Company's revenues, and for the year ended December 31, 2023, three customers represented 28%, 23%, and 11% of the Company's revenues.

At December 31, 2024, three customers represented 32%, 26% and 9% of the Company's accounts receivable, and at December 31, 2023, four customers represented 32%, 27%, 10% and 8% of the Company's accounts receivable.

For the year ended December 31, 2024, two suppliers represented 51% and 35% of the Company's purchases. For the year ended December 31, 2023, 91% of the Company's purchases related to three suppliers. At December 31, 2024 and 2023, 68% and 68% of the Company's accounts payable and accrued expenses related to two vendors, respectively. The Company believes there are numerous other suppliers that could be substituted should a supplier become unavailable or non-competitive.

Contingencies

Certain conditions may exist which may result in a loss to the Company, but which will only be resolved when one or more future events occur or fail to occur. The Company's management and its legal counsel assess such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against the Company, or unasserted claims that may result in such proceedings, the Company's legal counsel evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, the estimated liability would be accrued in the Company's consolidated financial statements. If the assessment indicates that a potentially material loss contingency is not probable but is reasonably possible, or is probable but cannot be estimated, the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed.

Loss contingencies considered remote are generally not disclosed unless they arise from guarantees, in which case the guarantees would be disclosed.

Recently Issued Accounting Standards

Issued in June 2021, FASB Accounting Standards Update (ASU) No. 2016-13, *Measurement of Credit Losses on Financial Instruments* adds to U.S. GAAP an impairment model known as the current expected credit loss (CECL) model, which is based on expected losses rather than incurred losses. This guidance is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early application of the amendments is permitted. Effective January 1, 2023, the Company adopted ASU No. 2016-13. The adoption of ASU No. 2016-13 did not have a material effect on the accompanying consolidated financial statements.

In November 2023, the FASB issued ASU No. 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which amends and enhances the disclosure requirements for reportable segments. All disclosure requirements under this standard will also be required for public entities with a single reportable segment. The new standard will be effective for the Company for fiscal years beginning after December 15, 2023, including interim periods within fiscal years beginning after December 15, 2024. The Company adopted ASU 2023-07 effective for its Annual Report on Form 10-K for the year ended December 31, 2024 and subsequent interim periods. Since ASU 2023-07 addresses only disclosures, the adoption of ASU 2023-07 did not have a significant impact on its consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which is intended to provide enhancements to annual income tax disclosures. The standard will require more detailed information in the rate reconciliation table and for income taxes paid, among other enhancements. The standard is effective for years beginning after December 15, 2024 and early adoption is permitted. The Company is evaluating this standard to determine if adoption will have a material impact on the Company's consolidated financial statements.

In November 2024, the FASB issued ASU No. 2024-03, *Income Statement – Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses*. This ASU requires entities to disaggregate expense items in the notes to the financial statements and requires disclosure of specified information related to purchases of inventory, employee compensation, depreciation, and intangible asset amortization. The amendments in this ASU are effective for annual periods beginning after December 15, 2026, and interim periods beginning after December 15, 2027. Companies have the option to apply the guidance either on a retrospective or prospective basis, and early adoption is permitted. The Company is currently evaluating the impact of the ASU on its consolidated financial statements and related disclosures. In January 2025, the FASB issued ASU No. 2025-01, *Income Statement – Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40): Clarifying the Effective Date*. This ASU amends the effective date of ASU No. 2024-03 to clarify that all public business entities are required to adopt the guidance in annual reporting periods beginning after December 15, 2026, and interim periods within annual reporting periods beginning after December 15, 2027. Early adoption of ASU No. 2024-03 is permitted.

Note 5 - Inventory

Inventory was comprised of the following at December 31, 2024 and December 31, 2023:

	December 31, 2024	December 31, 2023
Raw Materials	\$ 169,527	\$ 200,496
Spare Parts	-	17,912
Finished Goods	452,286	576,756
	<hr/> \$ 621,813	<hr/> \$ 795,164

Note 6 - Property and Equipment, Net

Property and equipment at December 31, 2024 and December 31, 2023 are as follows:

	December 31, 2024	December 31, 2023
Equipment & installation	\$ 1,096,979	\$ 1,095,139
Leasehold improvements	117,512	101,821
Trucking equipment	911,377	845,102
Lab equipment	725,626	-
Office equipment, computer equipment and software	1,874	1,874
Total equipment	<hr/> 2,853,368	<hr/> 2,043,936
Less: accumulated depreciation	(2,047,680)	(2,035,978)
Construction in process	1,545,000	1,588,000
Property and equipment, net	<hr/> \$ 2,350,688	<hr/> \$ 1,595,958

The Company uses the straight-line method of depreciation over estimated useful lives of 2 to 5 years. During the year ended December 31, 2024 and 2023 depreciation expense was \$11,702 and \$12,927, respectively. At December 31, 2024, lab equipment included \$725,626 of lab equipment not yet placed in service.

At December 31, 2024 and 2023, the Company concluded that Company's plant construction in process asset had become impaired based on the existing and anticipated future economic outlook. As a result, the Company impaired the asset to reduce the carrying value to fair value. Estimated fair value of the impaired long-lived asset is based on the estimated cost to replace the asset. As a result of the uncertain cash flows related to the Company's capitalized construction costs, the Company has recorded an impairment charge of \$43,000 (2023 - \$219,707).

Note 7 - Intellectual Property

License and patent costs capitalized as of December 31, 2024 and December 31, 2023 are as follows:

	December 31, 2024	December 31, 2023
Licenses and patents	\$ 3,068,995	\$ 3,068,995
Less: Accumulated amortization	(1,569,532)	(1,364,932)
Intellectual property, net	<u>\$ 1,499,463</u>	<u>\$ 1,704,063</u>

Amortization expense for the year ended December 31, 2024 and 2023 was \$204,600 and \$205,534, respectively. Estimated annual amortization for each of the next 5 years and thereafter is as follows:

Annual amortization for the years ended:

December 31, 2025	\$ 204,600
December 31, 2026	204,600
December 31, 2027	204,600
December 31, 2028	204,600
December 31, 2029	204,600
Thereafter	476,463
Total	<u>\$ 1,499,463</u>

Note 8 - Related Party

Secured Note Payable

On November 29, 2016, pursuant to a restated financing agreement entered with AC Midwest Energy, LLC ("AC Midwest") on November 1, 2016, the Company closed on a secured note with AC Midwest (the "AC Midwest Secured Note"), which was to mature on December 15, 2018. AC Midwest is wholly-owned by a stockholder of the Company. The AC Midwest Secured Note is guaranteed by MES, is non-convertible and bears interest at a rate of 15.0% per annum, payable quarterly in arrears on or before the last day of each fiscal quarter. On February 25, 2019, per Amendment No. 3 to the Amended and Restated Financing Agreement, AC Midwest extended the maturity date from December 15, 2018 to August 25, 2022.

On October 28, 2022, the Company, along with MES, and AC Midwest, executed Amendment No. 4 to the Amended and Restated Financing Agreement pursuant to which the maturity date of the AC Midwest Secured Note was extended to August 25, 2025. In addition, the interest rate on the remaining principal balance was reduced from 15.0% to 9.0% per annum. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$54,983 for the year ended December 31, 2022 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On February 27, 2024, the Company paid AC Midwest \$275,625 representing the remaining principal balance under the AC Midwest Secured Note of \$271,686 plus interest of \$3,939. As a result of the repayment of the remaining principal balance under the AC Midwest Secured Debt, the Company and AC Midwest executed a Satisfaction and Discharge of Secured Debt confirming the cancellation of the AC Midwest Secured Note.

As of December 31, 2024 and December 31, 2023, total principal of \$0 and \$271,686, respectively, was outstanding on this note. Interest expense for the years ended December 31, 2024 and 2023 was \$4,279 and \$43,955, respectively.

Amortized discount recorded as interest expense for the years ended December 31, 2024 and 2023 was \$32,220 and \$19,504, respectively. As of December 31, 2024 and 2023, the unamortized balance of the discount was \$Nil and \$32,220, respectively.

Unsecured Note Payable

The Company has the following unsecured note payable - related party outstanding as of December 31, 2024 and December 31, 2023:

	December 31, 2024	December 31, 2023
Unsecured note payable	\$ 13,154,931	\$ 13,154,931
Repayments	(12,314,895)	-
Less fair value adjustment on extinguishment, net of amortized discount of \$1,965,984 and \$1,547,536, respectively	(960,000)	(2,175,208)
Plus fair value adjustment	119,964	-
Total unsecured note payable	-	10,979,723
Less current portion	-	-
Unsecured note payable, net of current portion	\$ -	\$ 10,979,723

On November 29, 2016, pursuant to a restated financing agreement entered with AC Midwest on November 1, 2016, the Company closed on an unsecured note with AC Midwest (the “AC Midwest Subordinated Note”), which was to mature on December 15, 2020. On February 25, 2019, the Company, entered into an Unsecured Note Financing Agreement (the “Unsecured Note Financing Agreement”) with AC Midwest, pursuant to which AC Midwest issued an unsecured note in the principal amount of \$13,154,931 (the “AC Midwest Unsecured Note”), which represented the outstanding principal and accrued and unpaid interest at closing. The AC Midwest Unsecured Note, which replaced the AC Midwest Subordinated Note, was scheduled to mature on August 25, 2022 and bear a zero cash interest rate.

The Company determined that the rate of interest on the AC Midwest Subordinated Note was a below market rate of interest and determined that a discount of \$6,916,687 should be recorded. This discount was based on an applicable market rate for unsecured debt for the Company of 21% and is being amortized as interest expense over the life of the loan.

On August 30, 2022, AC Midwest agreed to an extension of the maturity date of the AC Midwest Unsecured Note (and AC Midwest Secured Note) from August 25, 2022 to September 30, 2022. Such extension was expected to provide the Company sufficient time in which to conclude the process of negotiating certain changes and modifications to such financing arrangements. On September 28, 2022, AC Midwest agreed to an additional short-term extension of such maturity date from September 30, 2022 to October 31, 2022. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$488,274 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On October 28, 2022, the Company, along with MES, and AC Midwest, executed Amendment No. 1 to Unsecured Note Financing Agreement pursuant to which the maturity date of the AC Midwest Unsecured Note was extended to August 25, 2025. In addition, the parties agreed that the Profit Share (see "Profit Share" below) be increased by \$4,500,000 from \$13,154,931 (representing 1.0 times the original principal amount) to \$17,654,931. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$3,234,469 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On February 27, 2024, the Company entered into an Unsecured Debt Restructuring Agreement (the "Debt Restructuring Agreement") with AC Midwest which replaces and supersedes the Unsecured Note Financing Agreement. Pursuant to the Debt Restructuring Agreement, on February 27, 2024, the Company (i) paid AC Midwest \$9,040,000 as a reduction in the outstanding principal balance of the AC Midwest Unsecured Note, and (ii) issued to AC Midwest a new unsecured replacement note representing the remaining outstanding principal balance of the Unsecured Note in the principal amount of \$4,114,931 (the "New Note"). In addition, within 30 days, the Company would either facilitate the private sale to third parties of certain shares of common stock of the Company held by AC Midwest for a purchase price of no less than \$960,000, which amount shall be applied as a credit against the principal balance due on the New Note dollar for dollar, or pay AC Midwest \$960,000 toward the principal balance due on the New Note. The private sale of shares for the purchase price of \$960,000 was completed on March 11, 2024. Any remaining principal balance on the New Note shall be due August 27, 2024 (the "New Note Maturity Date"), which is six months from February 27, 2024. Until repaid in full, the New Note shall accrue interest at a rate equal to SOFR plus 2.0% per annum. The New Note completely replaced and superseded the AC Midwest Unsecured Note, which shall be of no further force and effect.

On August 26 and 27, 2024, the Company repaid AC Midwest the remaining principal of \$3,154,931 on the New Note together with accrued interest of \$119,964. As a result, the only remaining debt obligation under the Debt Restructuring Agreement is the profit participation as described below.

The Company has accounted for the February 27, 2024 modification as debt extinguishment with a related party. As such the Company recorded a capital charge of \$1,005,984 on this exchange which is related to the difference in fair value of the New Note on the date of the exchange. The New Note represented a hybrid instrument and the Company elected to apply fair value option accounting to the New Note. Cash flows of the hybrid instrument in its entirety are discounted at an appropriate rate for the applicable duration of the instrument. Interest on the interest-bearing portion of the instrument that is held to maturity is aggregated as loss on change in fair value of profit share and unsecured note in the consolidated statements of operations.

Amortized discount recorded as interest expense for the years ended December 31, 2024 and 2023 was \$209,224 and \$1,316,667, respectively. As of December 31, 2024 and 2023, the unamortized balance of the discount was \$Nil and \$2,175,208, respectively.

Profit Share

Pursuant to the Unsecured Note Financing Agreement, AC Midwest was also entitled to a "non-recourse" profit participation preference equal to 1.0 times the original principal amount of the AC Midwest Unsecured Note which on October 28, 2022 was increased to \$17,654,931 (the "Profit Share"). Prior to maturity, the outstanding principal, as well as the Profit Share, were to be paid from Net Litigation Proceeds from claims relating to the Company's intellectual property, Net Revenue Share, Adjusted Free Cash Flow and Equity Offering Net Proceeds (as such terms are defined in the Unsecured Note Financing Agreement). Any remaining principal balance due on the Unsecured Note would be due and payable in full on the maturity date. The Profit Share, however, if not paid in full on or before the maturity date would remain subject to the Unsecured Note Financing Agreement until full and final payment.

Pursuant to the Debt Restructuring Agreement, AC Midwest was granted a profit participation preference equal to \$7,900,000 (the "Restructured Profit Share") which replaces and supersedes the terms and conditions of the Profit Share in the amount of \$17,654,931 provided for in the Unsecured Note Financing Agreement, which shall be of no further force and effect. The Restructured Profit Share is "non-recourse" and shall only be paid from Net Litigation Proceeds (as defined in the Debt Restructuring Agreement) from claims relating to the Company's intellectual property. Following the receipt of any Net Litigation Proceeds, the Company shall prepay any remaining principal balance of the New Note and pay the Restructured Profit Share in an amount equal to 75.0% of such Net Litigation Proceeds until the New Note and Restructured Profit Share have been paid in full. The Restructured Profit Share, if not paid in full on or before the New Note Maturity Date, shall remain subject to the terms of the Debt Restructuring Agreement.

In addition to facilitating the private sale to third parties as described above, AC Midwest granted the Company the exclusive right until December 31, 2024 to facilitate the sale of all or a portion of the remaining balance of the shares of common stock of the Company held by AC Midwest, which proceeds above a certain amount will be applied as a credit against the Restructured Profit Share dollar for dollar (the “Facilitation Credit”). As of December 31, 2024, the Company had not facilitated the sale of any portion of the remaining shares held by AC Midwest. As a result, no Facilitation Credit has been issued to the Company.

The Company has accounted for the February 27, 2024 modification as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$11,833,179 on this exchange which is related to the difference in fair value of the Restructured Profit Share on the date of the exchange.

The Company is utilizing the methodology behind the ASC 815, *Derivatives and Hedging* and ASC 480, *Distinguishing Liabilities from Equity* to determine how to account for the profit-sharing portion of the note payable. Although the transaction is not indexed to MEEC’s common stock the profit sharing has the characteristics of a freestanding financial instrument because the profit sharing is not callable by the lender, it will be paid out past the maturity of the Unsecured Note Payable and, the fair value will fluctuate over time based on payment predictions. The Profit Share was determined to have a fair value of \$3,389,043 upon grant. The fair value of the Profit Share upon grant included \$3,422,400 attributed to the Facilitation Credit which reduced the fair value of the Profit Share liability. At December 31, 2024, the Facilitation Credit had expired and the fair value attributed to the feature was \$0. This increased the fair value of the Profit Share at December 31, 2024, and increased the loss on change in fair value of the profit share recorded during the year ended December 31, 2024 by \$3,422,400. The discounted cash flow model assumptions used at December 31, 2024 to calculate the Profit Share liability included: the projected full repayment of the profit share liability of \$7,900,000 upon the receipt of Net Litigation Proceeds in 2025, and an annual market interest rate of 14.55%. The discounted cash flow model assumptions used at December 31, 2023 to calculate the Profit Share liability included: the projected full repayment of the profit share liability of \$17,654,931 upon the receipt of Net Litigation Proceeds in 2025, and an annual market interest rate of 14.55%. The profit share liability will be marked to market every quarter utilizing management’s estimates.

The following are the changes in the profit share liability (the only Level 3 financial instrument) during the years ended December 31, 2024 and 2023:

Profit Share as of January 1, 2023	\$ 3,638,260
Addition	-
Loss on change in fair value of profit share	11,209,677
Profit Share as of December 31, 2023	\$ 14,847,937
Profit Share as of January 1, 2024	\$ 14,847,937
Modification	(11,833,179)
Loss on change in fair value of profit share	3,839,100
Profit Share as of December 31, 2024	\$ 6,853,858

Related Party Transactions

Kaye Cooper Kay & Rosenberg, LLP provides certain legal services to the Company and was paid \$431,444 and \$393,111 for the years ended December 31, 2024 and 2023, respectively, for legal services rendered and disbursement incurred. David M. Kaye, a Director of the Company, is a partner of the law firm. At December 31, 2024 and December 31, 2023, \$37,500 and \$33,333, respectively, was owed to the firm for services rendered.

On January 31, 2023, the Company entered into a License and Supply Agreement with Dakin Holdings Ltd., a company incorporated in Barbados (“Dakin”), effective as of January 1, 2023 (the “Dakin Agreement”), pursuant to which Dakin has granted to the Company (i) a limited license to manufacture and produce for Dakin products comprising certain intellectual property owned by Dakin (the “Dakin IP”), and (ii) an exclusive license to commercialize the Dakin IP in the United States. In addition, the Company shall pay Dakin a license fee of \$12,500 per month for a three-year period commencing as of the effective date and ending December 31, 2025, and pay Dakin a royalty on all sales in the United States of the products comprising the Dakin IP made by the Company. On November 18, 2024, the parties entered into an amendment to the Dakin Agreement which eliminated all further monthly license fees after September 30, 2024. Dakin is a company owned and controlled by the Company’s Chief Executive Officer and President. The Dakin Agreement is for a term of ten years unless terminated earlier under certain circumstances as set forth therein. For the years ended December 31, 2024 and 2023, Dakin incurred \$112,500 and \$150,000 license fees. At December 31, 2024 and 2023, \$Nil and \$25,000 was owed to Dakin for license fees.

On May 28, 2024, the Company entered into an Administrative Services Agreement with Greenberg Enterprises, LLC (“Greenberg Enterprises”), pursuant to which Greenberg Enterprises will be paid for certain administrative support provided to the Company since January 1, 2024 and administrative support to be provided in the future to the Company including but not limited to general office and technical support, project management and support, and vendor relations support. Such agreement was terminated effective in December 2024. During the year ended December 31, 2024, Greenberg Enterprises provided \$237,020 for administrative services and \$335,100 for expense reimbursement. At December 31, 2024, \$Nil was owed to Greenberg Enterprises pursuant to the agreement. Greenberg Enterprises is a company owned and controlled by Christopher Greenberg, Chairman of the Board of the Company.

Note 9 - Operating Leases

On July 1, 2015, the Company entered into a five-year lease for warehouse space in Corsicana, Texas. The Company is also responsible for the pro rata share of the projected monthly expenses for the property taxes. The current pro rata share is \$882. On June 1, 2019, the lease was extended to March 31, 2024, and on March 28, 2024, the lease was further extended for an additional five years from March 31, 2024 to March 31, 2029. Rent is \$3,750 monthly until March 31, 2026 and then \$3,866 per month until March 31, 2029. The Company recorded a right of use asset and an operating lease liability of \$161,728. This amount represents the difference between the value from the remaining lease and the extended lease.

On August 1, 2024, the Company entered into a 3-year lease for laboratory space in Grand Forks, North Dakota. The lease contains an option to extend for a further three years that the Company is reasonably certain to exercise. As a result, the additional three year extension is included as part of the lease term. Rent is \$1,400 monthly until July 31, 2027, and then effectively \$1,540 per month until July 31, 2030. Upon commencement of the lease the Company recorded a right of use asset and an operating lease liability of \$69,615.

On November 22, 2024, the Company entered into an approximate 3-year lease for laboratory space in State College, Pennsylvania, commencing December 15, 2024 and ending November 30, 2027. The lease contains an option to extend for a further three years that the Company is reasonably certain to exercise. As a result, the additional three year extension is included as part of the lease term. Rent is \$1,800 monthly until November 30, 2025, \$1,860 monthly thereafter until November 30, 2026, and \$1,920 monthly thereafter until November 30, 2027. During the option period, rent is \$1,980 monthly from December 1, 2027 to November 30, 2028, \$2,040 monthly thereafter through November 30, 2029, and \$2,100 monthly thereafter through November 30, 2030. Upon commencement of the lease the Company recorded a right of use asset and an operating lease liability of \$94,942.

For the years ended December 31, 2024 and 2023, the Company recorded an operating lease right of use asset and liabilities as follows:

	December 31, 2024	December 31, 2023
Right of use asset - operating lease	\$ 305,142	\$ 10,639
Current portion of operating lease liability	42,733	11,157
Operating lease liability	306,233	-

Future remaining minimum lease payments under these non-cancelable leases are as follows:

For the twelve months ended December 31,	
2025	\$ 83,460
2026	85,224
2027	86,992
2028	88,692
2029	54,618
Thereafter	33,880
Total	432,866
Less discount	(126,643)
Total lease liabilities	306,223
Less current portion	(42,733)
Operating lease obligation, net of current portion	\$ 263,490

The weighted average remaining lease term for operating leases is 5.2 years and the weighted average discount rate used in calculating the operating lease asset and liability is 14.55%. For the years ended December 31, 2024 and 2023, payments on lease obligations were \$52,871 and \$45,000, respectively, and amortization on the right of use assets was \$31,782 and \$40,924, respectively.

For the years ended December 31, 2024 and 2023, the Company's lease cost consists of the following components, each of which is included in costs and expenses within the Company's consolidated statements of operations:

	December 31, 2024	December 31, 2023
Operating lease costs	\$ 53,595	\$ 45,310

Note 10 - Commitments and Contingencies

Fixed Price Contract

The Company's multi-year contracts with its commercial customers contain fixed prices for product. These contracts expire between 2023 and 2025 and expose the Company to the potential risks associated with rising material costs during that same period.

Legal proceedings

On July 17, 2019, the Company initiated patent litigation against certain defendants in the U.S. District Court for the District of Delaware for infringement of certain United States patents owned by the Company. These patents relate to the Company's two-part Sorbent Enhancement Additive (SEA®) process for mercury removal from coal-fired power plants. Named as defendants in the lawsuit were (i) Vistra Energy Corp., AEP Generation Resources Inc., NRG Energy, Inc., Talen Energy Corporation, and certain of their respective affiliated entities, all of which are owners and/or operators of coal-fired power plants in the United States, and (ii) Arthur J. Gallagher & Co., DTE REF Holdings, LLC, CERT Coal Holdings LLC, Chem-Mod LLC, and certain of their respective affiliated entities, and additional named and unnamed defendants, all of which operate or are involved in operations of coal facilities in the United States. In the lawsuit, the Company alleges that each of the defendants has willfully infringed certain of the Company's patents and seeks unspecified damages, attorneys' fees, costs and injunctive relief.

During 2020, each of the four major utility defendants in the above action filed petitions for Inter Partes Review with the United States Patent and Trademark Office, seeking to invalidate certain claims to the patents which are subject to the litigation. Between July 2020 and January 2021, we entered into agreements with each of the four major utility defendants in such action which included certain monetary arrangements and pursuant to which we have dismissed all claims brought against each of them and their affiliates, and such parties have withdrawn from petitions for Inter Partes Review with the United States Patent and Trademark Office. Such agreements entered into with such parties provide each of them and their affiliates with a non-exclusive license to certain Company patents (related to the Company's two-part Sorbent Enhancement Additive (SEA®) process) for use in connection with such parties' coal-fired power plants.

Subsequently, and as a result of certain rulings by the Court, certain defendants were dismissed in the action, certain defendants were added and certain originally named defendants remained in the action. A jury trial was scheduled for November 13, 2023.

On November 9, 2023, the Company entered into a confidential binding term sheet with Arthur J. Gallagher & Co., and various of its affiliated entities (collectively "AJG"), and DTE Energy Resources LLC and various of its affiliated entities (collectively "DTE"), to resolve the patent litigation. Pursuant to the term sheet, all claims and counterclaims asserted by the parties in such patent litigation have been dismissed with prejudice, although such term sheet does not affect any other claim brought against the remaining CERT defendants. The financial aspects of the term sheet remain confidential pursuant to its terms.

In addition, effective November 9, 2023, Alistar Enterprises, LLC (“Alistar”), one of the remaining CERT defendants, entered into a settlement agreement with the Company which provided that all claims and counterclaims asserted in the action between the Company and Alistar be dismissed with prejudice. The financial terms of such settlement remain confidential.

Effective as of December 28, 2023, and in connection with the term sheet described above, the Company, along with its wholly-owned subsidiary, MES, Inc., and (a) Chem-Mod LLC (“Chem-Mod”), (b) Arthur J. Gallagher & Co. and AJG Coal, LLC, and (c) DTE Energy Co. and DTE Energy Resources, LLC, entered into a paid license of U.S. Patent No. 8,168,147, U.S. Patent No. 10,343,114, U.S. Patent No. 10,589,225, U.S. Patent No. 10,596,517 and U.S. Patent No. 10,668,430 and their foreign equivalents and related patent applications and patents, which licenses the use of refined coal or the Chem-Mod Solution in conjunction with activated carbon. This license applies to Chem-Mod and certain of its licensees, sub-licensees, and their customers, for the remaining term of such patents. By its terms, the license does not cover the use of activated carbon with coal that is not either refined coal or coal made by or for use with the Chem-Mod Solution in a manner authorized by the license. The parties to the license have mutually released all claims that any past use of the Chem-Mod Solution in connection with the production or use of refined coal with activated carbon by entities other than the CERT defendants and their customers infringes the asserted patents and related intellectual property, and all claims that could have been brought challenging the validity of such patents.

The remaining CERT defendants and their customers (for activities relating to the CERT defendants) are not included within the scope of the license. The Court rescheduled the trial as to the claims against the remaining CERT defendants to begin on February 26, 2024.

Following a five-day trial, on March 1, 2024, a federal jury in the U.S. District Court for the District of Delaware awarded a \$57.1 million patent infringement verdict in favor of the Company against the remaining group of CERT defendants. Such group of affiliated defendants included multiple limited liability companies with refined coal industry operations, including CERT Operations II LLC, CERT Operations IV LLC, CERT Operations V LLC, and CERT Operations RCB LLC. The jury determined that these defendants infringed our patented technologies for mercury emissions and were liable for willful infringement, along with inducing and contributory infringement. Following the trial, various post-trial motions and applications were made by the parties. We are awaiting rulings from the Court.

In July 2024, the Company commenced three patent infringement lawsuits against multiple defendants, including coal-fired power utilities, in three separate U.S. District Courts in Arizona, Iowa and Missouri. Such lawsuits claim infringement of the Company’s patent rights related to the Company’s mercury emissions reduction technologies. Named as defendants in the action filed in the U.S. District Court for the District of Arizona are Tucson Electric Power Co., San Carlos Resources, Inc., Salt River Project Agricultural Improvement and Power District, Tri-State Generation and Transmission Association, Inc., Springerville Unit 3 Holding LLC, and Springerville Unit 3 Partnership LP. Named as defendants in the action filed in the U.S. District Court for the Southern District of Iowa are Berkshire Hathaway Energy Company, MidAmerican Energy Company, PacifiCorp, Alliant Energy Corporation, Interstate Power and Light Company, and Wisconsin Power and Light Company, and named as defendants in the action filed in the U.S. District Court for the Eastern District of Missouri are Ameren Corp. and Union Electric Co. In each lawsuit, the Company requests a trial by jury against the defendants and seeks damages, costs, and legal expenses, along with a finding of willful infringement by the defendants, and an injunction prohibiting the defendants from further acts of infringement.

Effective as of October 8, 2024, the Company entered into agreement with one of the utilities and an affiliated entity named as defendants in the patent infringement lawsuit commenced by the Company in July 2024 in the U.S. District Court in Arizona (the “Arizona Action”). Such agreement provides such parties and their affiliates with a non-exclusive license to certain Company patents related to the Company’s two-part Sorbent Enhancement Additive (SEA®) process for use in connection with a certain designated coal-fired power plant operated by such utility. The agreement includes a one-time license fee which has been received by the Company, and provides the Company with a right of first refusal for certain of such utility’s product supply for mercury emissions capture at such designated power plant. Such lawsuit will continue against the other non-affiliated defendants named in the Arizona Action.

On December 17, 2024, a United States Judicial Panel on Multidistrict Litigation ordered that the above three patent infringement lawsuits be consolidated and centralized in the Southern District of Iowa for coordinated or consolidated pretrial proceedings (the “Transfer Order”).

See "Note 16 – Subsequent Events" for information on an agreement entered into with another party named as a defendant in the Arizona Action, along with information of the commencement of additional patent litigation and filing of petitions for Inter Partes Review with the United States Patent and Trademark Office.

Except for the foregoing disclosures, the Company is not presently aware of any other material pending legal proceedings to which the Company is a party or of which any of its property is the subject.

Litigation, including patent litigation, is inherently subject to uncertainties. As such, there can be no assurance that the Company will be successful in litigating and/or settling any of these claims. The Company expenses legal costs relating to patent litigation as incurred.

Note 11 - Stock Based Compensation

Stock Based Compensation

The Company accounts for stock-based compensation awards in accordance with the provisions of ASC 718, which addresses the accounting for employee stock options which requires that the cost of all employee stock options, as well as other equity-based compensation arrangements, be reflected in the unaudited condensed consolidated financial statements over the vesting period based on the estimated fair value of the awards.

Stock based compensation consists of the amortization of common stock, stock options, restricted share units and warrants issued to employees, directors and consultants. For the years ended December 31, 2024 and 2023, stock-based compensation expense amounted to \$1,088,922 and \$520,449, respectively. Such expense is classified in selling, general and administrative expenses.

On July 3, 2023, the Board of Directors of the Company approved and adopted the Company's Amended and Restated 2014 Equity Incentive Plan (the "2014 Plan") and the Company's Amended and Restated 2017 Equity Incentive Plan (the "2017 Plan") which amended the Company's previously adopted 2014 Equity Incentive Plan and 2017 Equity Incentive Plans. Such amendments were made in accordance with the requirements of the TSX Venture Exchange. The 2014 Equity Incentive Plan was first approved by the Board on January 10, 2014. The 2017 Equity Incentive Plan replaced the 2014 Equity Incentive Plan, which was terminated by the Board on April 28, 2017. As a result of such termination, no additional awards may be granted under the 2014 Equity Incentive Plan but previously granted awards shall remain outstanding in accordance with their terms and conditions. The 2017 Plan was adopted by the Board on February 9, 2017. As amended by the Board on July 3, 2023, the maximum number of shares of common stock that may be issued under the 2017 Plan after July 3, 2023 is 14,078,459, and to the extent any award (or portion thereof) outstanding under the 2014 Plan expires, terminates or is cancelled, surrendered or forfeited for any reason on or after July 3, 2023, the shares of common stock subject to such award (or portion thereof) shall be added to and increase the foregoing limit, to a maximum of 4,775,000 additional shares of common stock. (On July 3, 2023, there were 4,775,000 options and no other types of awards outstanding under the 2014 Plan.) On October 29, 2024, the Board approved certain non-material amendments to the 2014 Plan and 2017 Plan which amendments were made in connection with the listing of the Company's shares on the Toronto Stock Exchange ("TSX") and graduation from the TSX Venture Exchange to the TSX. As of December 31, 2024, there were 5,741,306 shares remaining available for issuance under the 2017 Plan.

Common Stock

On November 8, 2022, the Company issued a total of 3,000,000 shares of common stock to the Chief Executive Officer. These shares of common stock were valued at \$960,000 in accordance with FASB ASC Topic 718. The fair value of the shares will be amortized as an expense over the vesting period. The shares became fully vested on November 8, 2024. The expense for the years ended December 31, 2024 and 2023 was \$402,666 and \$486,667, respectively.

Stock Options

On February 1, 2023, the Company issued (i) 850,000 shares of common stock to the Company's Chairman of the Board upon a cash exercise of options to purchase an aggregate of 850,000 shares of common stock at exercise prices ranging from \$0.19 to \$0.27 per share or \$209,500 in the aggregate, (ii) 110,000 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 250,000 shares of common stock at an exercise price of \$0.28 per share based upon a market price of \$0.50 per share as determined under the terms of the option, and (iii) 155,000 shares of common stock to a director of the Company upon a cashless exercise of an option to purchase 250,000 shares of common stock at an exercise price of \$0.19 per share based upon a market price of \$0.50 per share as determined under the terms of the option.

On February 20, 2023, the Company issued 17,858 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 50,000 shares of common stock at an exercise price of \$0.27 per share based upon a market price of \$0.42 per share as determined under the terms of the option.

Between February 21, 2023 and February 23, 2023, the Company issued an aggregate of 29,022 shares of common stock to three employees and one former employee upon a cashless exercise of options to purchase an aggregate of 80,000 shares of common stock at an exercise price of \$0.27 per share based upon market prices ranging from \$0.42 to \$0.43 per share as determined under the terms of the options.

On March 8, 2023, and pursuant to an advisor agreement dated March 1, 2023 with a nonaffiliated third party, the Company granted a nonqualified stock option under the 2017 Equity Incentive Plan to such third party to acquire 125,000 shares of the Company's common stock at an exercise price of \$0.40 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Equity Incentive Plan. Fifty percent of the option shall vest and become exercisable on September 1, 2023, and the remaining fifty percent shall vest and become exercisable on March 1, 2024. The option will expire five years after the date of grant. Based on a Black-Scholes valuation model, these options were valued at \$30,933, in accordance with FASB ASC Topic 718. The fair value of the shares was being amortized to selling, general and administrative expenses within the Company's consolidated statements of operations over twelve months. The valuation assumptions included an expected duration of 2.9 years, volatility of 98%, discount rate of 4.71% and dividends of \$0. On September 30, 2023, the advisor agreement was terminated resulting in 50.0% of the option remaining unvested and unexercisable.

On April 4, 2023, and pursuant to a consulting agreement effective April 1, 2023 with a nonaffiliated third party, the Company granted a nonqualified stock option under the 2017 Equity Incentive Plan to such third party to acquire 250,000 shares of the Company's common stock at an exercise price of \$0.39 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Equity Incentive Plan. Fifty percent of the option shall vest and become exercisable on October 1, 2023 and the remaining fifty percent shall vest and become exercisable on April 1, 2024. The option will expire five years after the date of grant. Based on a Black-Scholes valuation model, these options were valued at \$59,690, in accordance with FASB ASC Topic 718. The fair value of the shares was being amortized to selling, general and administrative expenses within the Company's consolidated statements of operations over twelve months. The valuation assumptions included an expected duration of 2.9 years, volatility of 98%, discount rate of 3.60% and dividends of \$0. On August 28, 2023, the consulting agreement was terminated resulting in the option remaining unvested and being deemed terminated.

On May 26, 2023, a new director was appointed to the Board of Directors and was granted a nonqualified stock option to acquire 125,000 shares of the Company's common stock exercisable at \$0.41 per share. Fifty percent of the option shall vest and become exercisable on November 26, 2023, and the remaining fifty percent shall vest and become exercisable on May 26, 2024. The option will expire five years after the date of grant. Based on a Black-Scholes valuation model, these options were valued at \$30,527, in accordance with FASB ASC Topic 718. The fair value of the shares is being amortized to selling, general and administrative expenses within the Company's consolidated statements of operations over twelve months. During the years ended December 31, 2024 and 2023, the Company recognized \$12,211 and \$18,316, respectively, of stock-based compensation. The valuation assumptions included an expected duration of 2.88 years, volatility of 97%, discount rate of 4.23% and dividends of \$0.

On June 5, 2023, the Company issued 1,629 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 6,875 shares of common stock at an exercise price of \$0.29 per share based upon a market price of \$0.38 per share as determined under the terms of the options.

On June 6, 2023, the Company issued an aggregate of 3,426 shares of common stock to an employee upon a cashless exercise of options to purchase an aggregate of 7,655 shares of common stock at exercise prices ranging from \$0.17 to \$0.29 per share based upon a market price of \$0.38 per share as determined under the terms of the options.

On June 7, 2023, the Company issued 1,352 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.29 per share based upon a market price of \$0.37 per share as determined under the terms of the options.

On June 28, 2023, the Company issued (i) 5,213 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of options to purchase an aggregate of 24,687 shares of common stock at exercise prices ranging from \$0.21 to \$0.29 per share based upon a market price of \$0.30 per share as determined under the terms of the options, (ii) 4,125 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock at an exercise price of \$0.21 per share based upon a market price of \$0.30 per share as determined under the terms of the option, and (iii) 1,875 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.21 per share based upon a market price of \$0.30 per share as determined under the terms of the options.

On July 28, 2023, the Company issued (i) 8,007 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 6,690 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (iii) 3,041 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of \$0.17 per share and such share issuances were based upon a volume weighted average price ("VWAP") of \$0.3311 per share as determined under the terms of the options.

On September 29, 2023, the Company issued (i) 5,555 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 4,641 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, (iii) 2,109 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock, and (iv) 1,033 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock. All of such options had an exercise price of \$0.26 per share and such share issuances were based upon a VWAP of \$0.3925 per share as determined under the terms of the options.

On October 30, 2023, the Company issued 1,450 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at any exercise price of \$0.20 per share based upon a VWAP of \$0.3799 per share as determined under the term of the options.

On October 31, 2023, the Company issued (i) 8,346 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 6,973 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (iii) 3,169 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of \$0.20 per share and such share issuances were based upon a VWAP of \$0.4058 per share as determined under the terms of the options.

On November 29, 2023, the Company issued 2,001 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at an exercise price of \$0.33 per share based upon a VWAP of \$0.9527 per share as determined under the term of the options.

On November 30, 2023, the Company issued (i) 9,104 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock at an exercise price of \$0.33 per share, (ii) 4,138 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.33 per share, and (iii) 9,400 shares of common stock to a former employee upon a cashless exercise of options to purchase a total of 18,750 shares of common stock, with exercises prices of ranging from \$0.25 to \$0.33 per share. All of such share issuances were based upon a VWAP of \$0.9768 per share as determined under the terms of the options.

On December 11, 2023, the Company issued (i) 10,278 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (ii) 4,672 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of 0.25 per share and such share issuances were based upon a VWAP of \$0.9902 per share as determined under the terms of the options.

On December 13, 2023, the Company issued 2,204 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at an exercise price of \$0.25 per share based upon a VWAP of \$0.8931 per share as determined under the term of the options.

On January 15, 2024, the Company granted nonqualified stock options to certain directors, executive officers and employees to acquire an aggregate of 1,000,000 shares of the Company's common stock under the 2017 Plan. The options granted are exercisable at \$0.88 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. The options are fully vested and exercisable as of the date of grant and will expire five years thereafter. Based on a Black-Scholes valuation model, these options were valued at \$632,214, in accordance with FASB ASC Topic 718, which was expensed on the issuance date in selling, general and administrative expenses within the Company's consolidated statements of operations. The valuation assumptions included an expected duration of 5 years, volatility of 93%, discount rate of 3.84% and dividends of \$0.

On February 27, 2024, the Company issued 9,285 shares of common stock to a former employee upon a cashless exercise of an option to purchase 18,750 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock, with an exercise price of \$0.27 per share. Such share issuance was based upon a VWAP of \$0.9230 per share as determined under the terms of the option.

On June 24, 2024, the Company issued (i) 886,456 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 1,500,000 shares of common stock at an exercise price of \$0.27 per share, and (ii) 672,867 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of options to purchase an aggregate of 1,600,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.45 per share. Such share issuances were based upon a VWAP of \$0.6601 per share as determined under the terms of the options.

On June 28, 2024, the Company issued (i) 46,409 shares of common stock to an employee upon a cashless exercise of options to purchase an aggregate of 300,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.61 per share, (ii) 44,065 shares of common stock to an employee upon a cashless exercise of an option to purchase 75,000 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock with an exercise price of \$0.27 per share, and (iii) 15,000 shares of common stock to a former employee upon a cashless exercise of an option to purchase 25,531 shares of common stock covered by an option to purchase a total of 500,000 shares of common stock with an exercise price of \$0.27 per share. Such share issuances were based upon a VWAP of \$0.6546 per share as determined under the terms of the options.

On August 3, 2024, the Company issued 32,112 shares of common stock to a former consultant upon a cashless exercise of an option to purchase 62,500 shares of common stock, with an exercise price of \$0.40 per share. Such share issuance was based upon a VWAP of \$0.8227 per share as determined under the terms of the option.

A summary of stock option activity is presented below:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
December 31, 2023	17,037,500	\$ 0.53	1.47	6,970,750
Grants	1,000,000	0.88		
Expirations	(5,155,719)	0.64		
Exercised	(3,581,781)	0.35		
December 31, 2024	9,300,000	\$ 0.58	1.75	12,500
Options exercisable at:				
December 31, 2024	9,300,000	0.58	1.75	12,500

The aggregate intrinsic value in the table above represents the total intrinsic value, based on the Company's closing stock price of \$0.51 as of December 31, 2024 (the last trading day of the month of December 2024), which would have been received by the option holders had all option holders exercised their options as of that date.

Stock options exercised during the year ended December 31, 2024 include none that were exercised for cash and 3,581,781 which were a cashless exercise.

Restricted Share Units

On January 15, 2024, the Company granted 50,000 restricted share units (“RSUs”) to a director pursuant to the 2017 Plan. The RSUs will vest one year from the date of grant on January 15, 2025. Once vested, each RSU represents the right to receive one share of the Company’s common stock. These shares of common stock were valued at \$43,500 in accordance with FASB ASC Topic 718. The fair value of the shares will be amortized as an expense over the vesting period. The shares become fully vested on January 15, 2025. The expense for the year ended December 31, 2024 was \$41,832.

Note 12 - Warrants

The Company utilized a Black-Scholes options pricing model to value warrants at the issuance date. This model requires the input of highly subjective assumptions such as the expected stock price volatility and the expected period until the warrants are exercised. When calculating the value of warrants issued, the Company uses a volatility factor, a risk-free interest rate and the life of the warrant for the exercise period.

No warrants were issued during the years ended December 31, 2024 and 2023. The following warrants were exercised during the years ended December 31, 2024 and 2023:

On June 17, 2024, the Company issued an aggregate of 16,665 shares of common stock to certain warrant holders upon the cashless exercise of warrants to purchase an aggregate of 600,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.72 per share as determined under the terms of the warrants.

On June 18, 2024, the Company issued 3,521 shares of common stock to a certain warrant holder upon the cashless exercise of a warrant to purchase 250,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.71 per share as determined under the terms of the warrant.

On August 5, 2024, the Company issued 66,666 shares of common stock to a certain warrant holder upon the cashless exercise of a warrant to purchase 400,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.84 per share as determined under the terms of the warrant.

On August 22, 2024, the Company issued 25,000 shares of common stock to a certain warrant holder upon a cash exercise of a warrant to purchase 25,000 shares of common stock at an exercise price of \$0.70 per share or \$17,500 in the aggregate.

The following is a summary of the Company’s warrant activity:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
December 31, 2023	2,550,000	\$ 0.70	0.60	\$ -
Grants	-	-	-	-
Expirations	(1,275,000)	0.70	-	-
Exercised	(1,275,000)	0.70	-	-
December 31, 2024	-	\$ -	-	\$ -
Warrants exercisable at:				
December 31, 2024	-	\$ -	-	\$ -

The following table summarizes information about common stock warrants outstanding at December 31, 2024:

Exercise Price	Number Outstanding	Outstanding and Exercisable	
		Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price
\$	\$		

Note 13 – Taxes

Below is breakdown of the income tax provisions for the years ended December 31:

	2024	2023
Federal		
Current	\$ -	\$ -
Deferred	-	-
State and local		
Current	(303,321)	473,000
Deferred	-	-
Income tax provision	\$ (303,321)	\$ 473,000

The expected tax expense (benefit) based on the statutory rate is reconciled with actual tax expense (benefit) as follows:

	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
U.S. federal statutory rate	21.0%	21.0%
State taxes	1.9%	9.8%
Deferred tax asset adjustments	(11.5)%	4.3%
Non-deductible amortization of debt discount	(0.4)%	-%
Other non-deductible items	(0.1)%	1.9%
Non-taxable change in profit share liability	(8.6)%	41.7%
Change in valuation allowance	(0.3)%	(70.3)%
Income tax provision	<u>2.6%</u>	<u>8.4%</u>

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows at December 31:

	2024	2023
Deferred tax assets:		
Net operating loss carryforwards	\$ 3,595,000	\$ 2,751,000
Stock based compensation	799,000	1,517,000
Other	152,000	186,000
Total deferred tax assets	<u>4,546,000</u>	<u>4,454,000</u>
Deferred tax liability:		
IRC Section 481(a) adjustment	(125,000)	-
Valuation Allowance	(4,421,000)	(4,454,000)
Net deferred tax asset	\$ -	\$ -

As of December 31, 2024, the Company has U.S. federal net operating loss carryovers (“NOLs”) of approximately \$16,632,000 available to offset taxable net income in a given year of which \$3,769,000 expires from 2035 through 2037 and \$12,863,000 does not expire. The Company also has state NOL carryforwards of approximately \$2,306,000 which start to expire in 2025. If not used, these NOLs may be subject to limitation under Internal Revenue Code Section 382 should there be a greater than 50% ownership change as determined under the regulations.

In assessing the realization of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon future generation for taxable income during the periods in which temporary differences representing net future deductible amounts become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. After consideration of all the information available, Management believes that significant uncertainty exists with respect to future realization of the deferred tax assets and has therefore established a full valuation allowance. For the years ended December 31, 2024 and 2023, the valuation allowance (decreased) by (\$33,000) and \$(3,973,000), respectively.

The Company evaluated the provisions of ASC 740-10 related to the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. ASC 740-10 prescribes a comprehensive model for how a company should recognize, present, and disclose uncertain positions that the Company has taken or expects to take in its tax return. For those benefits to be recognized, a tax position must be more-likely-than-not to be sustained upon examination by taxing authorities. Differences between tax positions taken or expected to be taken in a tax return and the net benefit recognized and measured pursuant to the interpretation are referred to as “unrecognized benefits.” A liability is recognized (or amount of net operating loss carry forward or amount of tax refundable is reduced) for unrecognized tax benefit because it represents an enterprise's potential future obligation to the taxing authority for a tax position that was not recognized as a result of applying the provisions of ASC 740-10.

There were no unrecognized tax benefits as of December 31, 2024. The Company is no longer subject to tax examinations by tax authorities for years prior to 2020. If applicable, interest costs related to the unrecognized tax benefits are required to be calculated and would be classified as “Other expenses – Interest” in the statement of operations. Penalties would be recognized as a component of “General and administrative.” No interest or penalties on unpaid tax were recorded during the years ended December 31, 2024 and 2023, respectively. As of December 31, 2024 and 2023, no liability for unrecognized tax benefits was required to be reported. The Company does not expect any significant changes in its unrecognized tax benefits in the next year.

Note 14 – Segment and Geographic Information

The Company's chief operating decision maker (“CODM”) is the Chief Executive Officer (the “CEO”). The Company is a provider of specialty activated carbon technologies and, at December 31, 2024, had one operating segment, which entails the providing of patented sorbent technologies for mercury emissions capture for the coal-fired utility sector in the United States.

There are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, management has determined that the Company has a single operating and reportable segment. The accounting policies related to operating and reportable segments are the same as those described in Note 4, “Basis of Presentation and Summary of Significant Accounting Policies”. The primary measure of segment profit or loss is consolidated net income as presented below and is used by the CEO for the purpose of evaluating segment performance and allocation of budget to support business expansion, new product development and operational efficiencies.

	2024	2023
Material sales	\$ 14,481,784	\$ 17,092,996
License fees	2,808,125	387,500
Other revenues	116,276	144,874
Total revenues	<u>17,406,185</u>	<u>17,625,370</u>
Material costs	(7,686,447)	(8,898,747)
Blending and milling	(377,598)	(769,167)
Shipping	(1,081,781)	(1,380,051)
Other cost of goods sold	(700,279)	(652,688)
Compensation and benefits	(6,148,100)	(2,577,473)
Stock-based compensation	(1,088,922)	(573,783)
Amortization and depreciation	(248,084)	(228,962)
Consulting fees	(879,800)	(109,381)
Professional fees	(4,722,313)	(9,717,572)
General and administrative	(1,588,129)	(1,471,311)
Change in fair value of profit share	(3,959,065)	(11,209,677)
Interest expense	(267,458)	(1,362,401)
Impairment loss	(43,000)	(219,707)
Income tax benefit (expense)	289,156	(473,213)
Income from legal claims	-	27,607,776
Interest income	293,524	79,301
Segment net (loss) income	<u>(10,802,111)</u>	<u>5,668,314</u>
Reconciliation of profit or loss		
Adjustments and reconciling items	-	-
Consolidated net (loss) income	<u>\$ (10,802,111)</u>	<u>\$ 5,668,314</u>

The segment assets are not reviewed by the CODM at a different asset level or category and is reviewed at the consolidated level.

Note 15 - Subsequent Events

On January 2, 2025, and pursuant to an investor relations consulting agreement effective as of January 1, 2025 with a nonaffiliated third party, the Company granted a nonqualified stock option under the 2017 Plan to such third party to acquire 250,000 shares of the Company's common stock at an exercise price of \$0.51 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. Twenty-five percent of the option shall vest and become exercisable three months following the grant date and twenty-five percent shall vest every three months thereafter such that the option shall be fully vested one year following the grant date. The option will expire three years after the grant date.

Effective as of January 7, 2025, the Company entered into agreement with another one of the utilities named as a defendant in the Arizona Action (see "Note 10 – Commitments and Contingencies"). Such agreement provides such party and its affiliates with a non-exclusive license to certain Company patents related to the Company's two-part Sorbent Enhancement Additive (SEA®) process for use in connection with a certain designated coal-fired power plant operated by such utility. The agreement includes a one-time license fee which has been received by the Company, and provides the Company with the right to be included in such party's bidding process for certain product supply for mercury emissions capture at such party's designated power plant.

On January 9, 2025, the Company granted a nonqualified stock option under the 2017 Plan to a new director, who was elected to the Board on December 30, 2024, to acquire 100,000 shares of the Company's common stock at an exercise price of \$0.56 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. The option is fully vested and exercisable as of the grant date and will expire five years thereafter.

On January 15, 2025, the Company issued 50,000 shares of common stock to a director due to the vesting on such date of 50,000 restricted share units ("RSUs") which had previously been granted on January 15, 2024 pursuant to the 2017 Plan and had a one-year vesting period.

In January 2025, the Company commenced another patent infringement lawsuit against four defendants in the U.S. District Court for the Western District of Missouri. Such lawsuit claims infringement of the Company's patent rights related to the Company's mercury emissions reduction technologies. Named as defendants in the action are Evergy, Inc., Evergy Metro Inc., Evergy Missouri West, Inc. and Evergy Kansas Central, Inc. In the lawsuit, the Company requests a trial by jury against the defendants and seek damages, costs, and legal expenses, along with a finding of willful infringement by the defendants, and an injunction prohibiting the defendants from further acts of infringement. In February 2025, such lawsuit was consolidated with and transferred to the Southern District of Iowa pursuant to the Transfer Order (see "Note 10 – Commitments and Contingencies").

In January and February 2025, certain of the defendants in the patent infringement lawsuits which have been consolidated and centralized in the Southern District of Iowa filed petitions for Inter Partes Review with the United States Patent and Trademark Office, seeking to invalidate certain claims to the patents which are subject to the litigation.

On March 19, 2025, the Company announced that its Board of Directors authorized a share repurchase program under which the Company may purchase up to \$5.0 million of its common stock. Purchases under the share repurchase program may be made from time to time, in such amounts as management deems appropriate, through a variety of methods, which may include open market purchases, privately negotiated transactions, block trades, accelerated share repurchase transactions, purchases through 10b5-1 trading plans, or by any combination of such methods. The timing and amount of any repurchases pursuant to the share repurchase program will be determined based upon a variety of factors, including general market conditions, share price, corporate and regulatory requirements and limitations, corporate liquidity requirements and priorities, and other factors. The Company anticipates that any repurchases will not occur before the second half of 2025. The share repurchase program does not have an expiration date, does not require the Company to repurchase any specific number of shares of its common stock, if any, and may be modified, suspended or terminated at any time without notice.

Note 16 – Restatement of Quarterly Financial Information (Unaudited)

As described in Note 2—Restatement of Previously Issued Financial Statements, for the period ended December 31, 2024, management identified an error in the previously reported financial statements related to the recognition of revenue during the year ended December 31, 2022. The Company entered into a license agreement for which it should have recognized the entire proceeds receivable pursuant to the agreement as revenue during the year ended December 31, 2022. The Company should also have recognized the financing component of the licensing agreement during the fiscal years ended December 31, 2023 and 2024. As a result, the consolidated financial statements reflect the recognition of this additional revenue during the year ended December 31, 2022, removes the revenue recognized and records the financing component of the arrangement during annual and interim periods in the fiscal year ending December 31, 2023 and the interim periods in the fiscal year ending December 31, 2024. The following tables present the effect of the restatement on the Company's previously reported:

- unaudited condensed consolidated balance sheets as of March 31, 2023, June 30, 2023, and September 30, 2023;
- unaudited condensed consolidated balance sheets as of March 31, 2024, June 30, 2024, and September 30, 2024;
- unaudited condensed consolidated statements of operations for the three months ended March 31, 2023, the three months and six months ended June 30, 2023, and the three months and nine months ended September 30, 2023;
- unaudited condensed consolidated statements of operations for the three months ended March 31, 2024, the three months and six months ended June 30, 2024, and the three months and nine months ended September 30, 2024;
- unaudited condensed consolidated statements of cash flows for the three months ended March 31, 2023, the six months ended June 30, 2023, and the nine months ended September 30, 2023; and
- unaudited condensed consolidated statements of cash flows for the three months ended March 31, 2024, the six months ended June 30, 2024, and the nine months ended September 30, 2024.

The values as previously reported were derived from the previously filed Quarterly Reports on Form 10-Q for the periods ended March 31, 2023, June 30, 2023, September 30, 2023, March 31, 2024, June 30, 2024, and September 30, 2024. These restatements do not result in a reclassification between cash flows from operating activities, cash flows from investing activities, or cash flows from financing activities in the unaudited condensed consolidated statements of cash flows for the periods presented. The restatements only impact net loss in the unaudited condensed consolidated statements of changes in stockholders' equity (deficit) in the periods presented.

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of March 31, 2023:

CONSOLIDATED BALANCE SHEETS

	MARCH 31, 2023		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 696,933	\$ 788,408	\$ 1,485,341
Total current assets	4,313,535	788,408	5,101,943
Total assets	8,051,939	788,408	8,840,347
Stockholders' equity (deficit)			
Accumulated deficit	(70,145,373)	788,408	(69,356,965)
Total stockholders' equity (deficit)	(8,504,314)	788,408	(7,715,906)
Total liabilities and stockholders' equity (deficit)	\$ 8,051,939	\$ 788,408	\$ 8,840,347

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three months ended March 31, 2023:

CONSOLIDATED STATEMENT OF OPERATIONS

	FOR THE THREE MONTHS ENDED MARCH 31, 2023		
	As previously reported	Adjustment	As restated
Revenue	\$ 3,012,749	\$ (315,000)	\$ 2,697,749
Interest income	-	24,458	24,458
Total costs and expenses	4,439,945	(24,458)	4,415,487
Loss before provision for income taxes	(1,427,196)	(290,542)	(1,717,738)
Net loss	\$ (1,446,984)	\$ (290,542)	\$ (1,737,526)
Net loss per common share - basic and diluted:	\$ (0.02)	\$ -	\$ (0.02)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the three months ended March 31, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE THREE MONTHS ENDED MARCH 31, 2023		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (1,446,984)	\$ (290,542)	\$ (1,737,526)
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(24,458)	(24,458)
Changes in operating assets and liabilities			
Accounts receivable	2,080,674	315,000	2,395,674
Net cash provided by operating activities	<u>\$ 777,564</u>	<u>\$ -</u>	<u>\$ 777,564</u>

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of June 30, 2023:

CONSOLIDATED BALANCE SHEETS

	JUNE 30, 2023		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 2,043,328	\$ 806,281	\$ 2,849,609
Total current assets	<u>4,968,663</u>	<u>806,281</u>	<u>5,774,944</u>
Total assets	<u>8,645,146</u>	<u>806,281</u>	<u>9,451,427</u>
Stockholders' equity (deficit)			
Accumulated deficit	(70,909,843)	806,281	(70,103,562)
Total stockholders' equity (deficit)	<u>(9,131,190)</u>	<u>806,281</u>	<u>(8,324,909)</u>
Total liabilities and stockholders' equity (deficit)	<u>\$ 8,645,146</u>	<u>\$ 806,281</u>	<u>\$ 9,451,427</u>

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three and six months ended June 30, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	FOR THE THREE MONTHS ENDED JUNE 30, 2023			FOR THE SIX MONTHS ENDED JUNE 30, 2023		
	As previously reported	Adjustment	As restated	As previously reported	Adjustment	As restated
Revenues	\$ 4,111,721	\$ -	\$ 4,111,721	\$ 7,124,469	\$ (315,000)	\$ 6,809,469
Interest income	\$ -	\$ 17,873	\$ 17,873	\$ -	\$ 42,331	\$ 42,331
Total costs and expenses	4,875,876	(17,873)	4,858,003	9,315,819	(42,331)	9,273,488
Net loss before provision for income taxes	(764,155)	17,873	(746,282)	(2,191,350)	(272,669)	(2,464,019)
Net loss	\$ (764,470)	\$ 17,873	\$ (746,597)	\$ (2,211,454)	\$ (272,669)	\$ (2,484,123)
Net loss per common share - basic and diluted:	\$ (0.01)	\$ -	\$ (0.01)	\$ (0.02)	\$ (0.01)	\$ (0.03)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the six months ended June 30, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE SIX MONTHS ENDED JUNE 30, 2023		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (2,211,454)	\$ (272,669)	\$ (2,484,123)
Adjustments to reconcile net loss to net cash			
Non-cash interest income		-	\$ (42,331)
Changes in operating assets and liabilities			
Accounts receivable	734,279	315,000	1,049,279
Net cash provided by operating activities	\$ 232,492	\$ -	\$ 232,492

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of September 30, 2023:

CONSOLIDATED BALANCE SHEETS

	SEPTEMBER 30, 2023		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 2,549,022	\$ 824,559	\$ 3,373,581
Total current assets	6,074,162	824,559	6,898,721
Total assets	9,681,503	824,559	10,506,062
Stockholders' equity (deficit)			
Accumulated deficit	(71,737,345)	824,559	(70,912,786)
Total stockholders' equity (deficit)	(9,856,227)	824,559	(9,031,668)
Total liabilities and stockholders' equity (deficit)	\$ 9,681,503	\$ 824,559	\$ 10,506,062

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three and nine months ended September 30, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	FOR THE THREE MONTHS ENDED SEPTEMBER 30, 2023			FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2023		
	As previously reported	Adjustment	As restated	As previously reported	Adjustment	As restated
Revenues	\$ 6,747,256	\$ -	\$ 6,747,256	\$ 13,871,725	\$ (315,000)	\$ 13,556,725
Interest income	-	18,278	18,278	-	60,609	60,609
Total costs and expenses	7,574,758	(18,278)	7,556,480	16,910,681	(60,609)	16,850,072
Net loss before provision for income taxes	(827,502)	18,278	(809,224)	(3,038,956)	(254,391)	(3,293,347)
Net loss	\$ (827,502)	\$ 18,278	\$ (809,224)	\$ (3,038,956)	\$ (254,391)	\$ (3,293,347)
Net loss per common share - basic and diluted:	\$ (0.01)	\$ -	\$ (0.01)	\$ (0.03)	\$ -	\$ (0.03)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the nine months ended September 30, 2023:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2023		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (3,038,956)	\$ (254,391)	\$ (3,293,347)
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(60,609)	(60,609)
Changes in operating assets and liabilities			
Accounts receivable	228,585	315,000	543,585
Net cash provided by operating activities	\$ 786,144	\$ -	\$ 786,144

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of March 31, 2024:

CONSOLIDATED BALANCE SHEETS

	MARCH 31, 2024		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 1,667,856	\$ 547,367	\$ 2,215,223
Total current assets	13,670,201	547,367	14,217,568
Total assets	17,083,765	547,367	17,631,132
Stockholders' equity (deficit)			
Accumulated deficit	(65,353,367)	547,367	(64,806,000)
Total stockholders' equity (deficit)	8,255,523	547,367	8,802,890
Total liabilities and stockholders' equity (deficit)	\$ 17,083,765	\$ 547,367	\$ 17,631,132

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three months ended March 31, 2024:

CONSOLIDATED STATEMENT OF OPERATIONS

**FOR THE THREE MONTHS ENDED
MARCH 31, 2024**

	As previously reported	Adjustment	As restated
Revenue	\$ 3,556,766	\$ (315,000)	\$ 3,241,766
Gross profit	1,443,284	(315,000)	1,128,284
Operating loss	(2,083,492)	(315,000)	(2,398,492)
Other income	35,516	19,116	54,632
Total other income (expense)	(475,499)	19,116	(456,383)
Loss before provision for income taxes	(2,558,991)	(295,884)	(2,854,875)
Net loss	\$ (2,558,991)	\$ (295,884)	\$ (2,854,875)
Net loss per common share - basic and diluted:	\$ (0.03)	\$ -	\$ (0.03)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the three months ended March 31, 2024:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

**FOR THE THREE MONTHS ENDED
MARCH 31, 2024**

	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (2,558,991)	\$ (295,884)	\$ (2,854,875)
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(19,116)	(19,116)
Changes in operating assets and liabilities			
Accounts receivable	565,355	315,000	880,355
Net cash provided by operating activities	\$ (439,220)	\$ -	\$ (439,220)

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of June 30, 2024:

CONSOLIDATED BALANCE SHEETS

	JUNE 30, 2024		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 1,784,437	\$ 559,775	\$ 2,344,212
Total current assets	11,327,736	559,775	11,887,511
Total assets	14,749,740	559,775	15,309,515
Stockholders' equity (deficit)			
Accumulated deficit	(71,512,689)	559,775	(70,952,914)
Total stockholders' equity (deficit)	2,232,979	559,775	2,792,754
Total liabilities and stockholders' equity (deficit)	\$ 14,749,740	\$ 559,775	\$ 15,309,515

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three and six months ended June 30, 2024:

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	FOR THE THREE MONTHS ENDED JUNE 30, 2024			FOR THE SIX MONTHS ENDED JUNE 30, 2024		
	As previously reported	Adjustment	As restated	As previously reported	Adjustment	As restated
Revenues	\$ 3,361,433	\$ -	\$ 3,361,433	\$ 6,918,199	\$ (315,000)	\$ 6,603,199
Gross profit	1,060,600	-	1,060,600	2,503,884	(315,000)	2,188,884
Operating loss	(3,573,510)	-	(3,573,510)	(5,657,002)	(315,000)	(5,972,002)
Interest income	109,787	12,408	122,195	145,303	31,524	176,827
Total other income (expense)	(2,585,466)	12,408	(2,573,058)	(3,060,965)	31,524	(3,029,441)
Net loss before provision for income taxes	(6,158,976)	12,408	(6,146,568)	(8,717,967)	(283,476)	(9,001,443)
Net loss	\$ (6,159,322)	\$ 12,408	\$ (6,146,914)	\$ (8,718,313)	\$ (283,476)	\$ (9,001,789)
Net loss per common share - basic and diluted:	\$ (0.07)	\$ -	\$ (0.07)	\$ (0.09)	\$ (0.01)	\$ (0.10)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the six months ended June 30, 2024:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE SIX MONTHS ENDED JUNE 30, 2024		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (8,718,313)	\$ (283,476)	\$ (9,001,789)
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(31,524)	(31,524)
Changes in operating assets and liabilities			
Accounts receivable	448,774	315,000	763,774
Net cash provided by operating activities	\$ (3,122,619)	\$ -	\$ (3,122,619)

The following table presents the impact of the financial statement adjustments on the Company's previous reported consolidated Balance Sheet as of September 30, 2024:

CONSOLIDATED BALANCE SHEETS

	SEPTEMBER 30, 2024		
	As previously reported	Adjustment	As restated
ASSETS AND STOCKHOLDERS' EQUITY (DEFICIT)			
Accounts receivable	\$ 1,930,396	\$ 572,465	\$ 2,502,861
Total current assets	7,590,707	572,465	8,163,172
Total assets	11,654,860	572,465	12,227,325
Stockholders' equity (deficit)			
Accumulated deficit	(71,982,925)	572,465	(71,410,460)
Total stockholders' equity (deficit)	1,913,874	572,465	2,486,339
Total liabilities and stockholders' equity (deficit)	\$ 11,654,860	\$ 572,465	\$ 12,227,325

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Operations for the three and nine months ended September 30, 2024:

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	FOR THE THREE MONTHS ENDED SEPTEMBER 30, 2024			FOR THE NINE MONTHS ENDED SEPTMEER 30, 2024		
	As previously reported	Adjustment	As restated	As previously reported	Adjustment	As restated
Revenues	\$ 5,236,990	\$ -	\$ 5,236,990	\$ 12,155,189	\$ (315,000)	\$ 11,840,189
Gross profit	1,594,919	-	1,594,919	4,098,803	(315,000)	3,783,803
Operating loss	(1,107,431)	-	(1,107,431)	(6,764,433)	(315,000)	(7,079,433)
Interest income	67,966	12,690	80,656	213,269	44,214	257,483
Total other income (expense)	342,992	12,690	355,682	(2,717,973)	44,214	(2,673,759)
Net loss before provision for income taxes	(764,439)	12,690	(751,749)	(9,482,406)	(270,786)	(9,753,192)
Net loss	\$ (470,236)	\$ 12,690	\$ (457,546)	\$ (9,188,549)	\$ (270,786)	\$ (9,459,335)
Net loss per common share - basic and diluted:	\$ (0.00)	\$ -	\$ (0.00)	\$ (0.10)	\$ -	\$ (0.10)

The following table presents the impact of the financial statement adjustments on the Company's previously reported Consolidated Statement of Cash Flows for the nine months ended September 30, 2024:

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

	FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2024		
	As previously reported	Adjustment	As restated
Cash flows from operating activities			
Net income (loss)	\$ (9,188,549)	\$ (270,786)	\$ (9,459,335)
Adjustments to reconcile net loss to net cash			
Non-cash interest income	-	(44,214)	(44,214)
Changes in operating assets and liabilities			
Accounts receivable	302,815	315,000	617,815
Net cash provided by operating activities	\$ (3,274,785)	\$ -	\$ (3,274,785)

BIRCHTECH CORP. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2025 (Unaudited)	December 31, 2024
ASSETS		
Current assets		
Cash	\$ 1,454,069	\$ 3,456,082
Accounts receivable	2,160,462	1,823,232
Inventory	830,899	621,813
Prepaid expenses and other assets	126,285	198,185
Total current assets	<u>4,571,715</u>	<u>6,099,312</u>
Security deposits	6,615	6,615
Property and equipment, net	2,315,493	2,350,688
Right of use asset - operating lease	282,775	305,142
Intellectual property, net	1,397,163	1,499,463
Total assets	<u>\$ 8,573,761</u>	<u>\$ 10,261,220</u>
LIABILITIES AND STOCKHOLDERS' (DEFICIT) EQUITY		
Current liabilities		
Accounts payable and accrued expenses (related party \$37,500 and \$37,500 at June 30, 2025 and December 31, 2024, respectively)	\$ 2,445,692	\$ 1,702,998
Current portion of operating lease liability	46,614	42,733
Customer credits	167,000	167,000
Accrued salaries	41,886	39,280
Profit share liability – related party	7,582,906	6,853,858
Total current liabilities	<u>10,284,098</u>	<u>8,805,869</u>
Operating lease liability, net of current portion	238,983	263,490
Total liabilities	<u>10,523,081</u>	<u>9,069,359</u>
Commitments and contingencies (Note 9)		
Stockholders' (deficit) equity		
Preferred stock, \$0.001 par value: 2,000,000 shares authorized, no shares issued	-	-
Common stock, \$0.001 par value; 150,000,000 shares authorized 96,866,109 and 96,178,153 shares issued and outstanding as of June 30, 2025 and December 31, 2024 respectively.	96,866	96,178
Additional paid-in capital	73,928,186	73,848,919
Accumulated deficit	<u>(75,974,372)</u>	<u>(72,753,236)</u>
Total stockholders' (deficit) equity	<u>(1,949,320)</u>	<u>1,191,861</u>
Total liabilities and stockholders' (deficit) equity	<u>\$ 8,573,761</u>	<u>\$ 10,261,220</u>

See accompanying notes to these condensed consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	For the Three Months Ended June 30, 2025	For the Three Months Ended June 30, 2024	For the Six Months Ended June 30, 2025	For the Six Months Ended June 30, 2024
Product revenue	\$ 3,244,446	\$ 3,302,936	\$ 5,921,430	\$ 6,387,024
License revenue	-	-	525,000	140,625
Other revenue	9,465	58,497	28,492	75,550
Revenues	3,253,911	3,361,433	6,474,922	6,603,199
Cost of sales	(2,285,833)	(2,300,833)	(4,272,498)	(4,414,315)
Gross profit	968,078	1,060,600	2,202,424	2,188,884
Operating expenses:				
Research and development expenses	(455,485)	-	(862,161)	-
Selling, general and administrative expenses (related party of \$112,500, \$232,709, \$225,000 and \$375,385)	(1,697,940)	(4,634,110)	(3,868,563)	(8,160,886)
Total operating expenses	(2,153,425)	(4,634,110)	(4,730,724)	(8,160,886)
Operating loss	(1,185,347)	(3,573,510)	(2,528,300)	(5,972,002)
Other income (expense)				
Interest expense (related party of \$Nil, \$Nil, \$Nil and \$245,817)	-	(5,817)	(54)	(251,634)
Loss on change in fair value of profit share and unsecured note	(375,697)	(2,689,436)	(729,048)	(2,954,634)
Interest income	19,537	122,195	50,810	176,827
Total other income (expense)	(356,160)	(2,573,058)	(678,292)	(3,029,441)
Loss before provision for income taxes	(1,541,507)	(6,146,568)	(3,206,592)	(9,001,443)
Income tax expense	(409)	(346)	(14,544)	(346)
Net loss	\$ (1,541,916)	\$ (6,146,914)	\$ (3,221,136)	\$ (9,001,789)
Net loss per common share - basic and diluted	\$ (0.02)	\$ (0.07)	\$ (0.03)	\$ (0.10)
Weighted average common shares outstanding	96,256,195	94,477,368	96,238,108	94,419,656

See accompanying notes to these condensed consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

	Three and Six Months Ended June 30, 2025				
	Common Stock		Additional		Accumulated (Deficit)
	Shares	Par Value	Paid-in Capital	Total	
Balance - January 1, 2025	<u>96,178,153</u>	\$ <u>96,178</u>	\$ <u>73,848,919</u>	\$ <u>(72,753,236)</u>	\$ <u>1,191,861</u>
Stock issued for delivery of RSUs	50,000	50	(50)	-	-
Share based payments	-	-	60,527	-	60,527
Net loss	-	-	-	(1,679,220)	(1,679,220)
Balance - March 31, 2025	<u>96,228,153</u>	\$ <u>96,228</u>	\$ <u>73,909,396</u>	\$ <u>(74,432,456)</u>	\$ <u>(426,832)</u>
Stock issued for cashless exercise of options	637,956	638	(638)	-	-
Share based payments	-	-	19,428	-	19,428
Net loss	-	-	-	(1,541,916)	(1,541,916)
Balance - June 30, 2025	<u>96,866,109</u>	\$ <u>96,866</u>	\$ <u>73,928,186</u>	\$ <u>(75,974,372)</u>	\$ <u>(1,949,320)</u>
Three and Six Months Ended June 30, 2024					
	Common Stock		Additional		Accumulated (Deficit)
	Shares	Par Value	Paid-in Capital	Total	
	<u>94,360,107</u>	\$ <u>94,360</u>	\$ <u>61,917,119</u>	\$ <u>(61,951,125)</u>	\$ <u>60,354</u>
Stock issued for cashless exercise of options	9,285	9	(9)	-	-
Gain on modification of related party debt	-	-	10,827,195	-	10,827,195
Share based payments	-	-	770,216	-	770,216
Net loss	-	-	-	(2,854,875)	(2,854,875)
Balance - March 31, 2024	<u>94,369,392</u>	\$ <u>94,369</u>	\$ <u>73,514,521</u>	\$ <u>(64,806,000)</u>	\$ <u>8,802,890</u>
Stock issued for cashless exercise of options	1,664,797	1,665	(1,665)	-	-
Stock issued for cashless exercise of warrants	20,186	20	(20)	-	-
Share based payments	-	-	136,778	-	136,778
Net loss	-	-	-	(6,146,914)	(6,146,914)
Balance - June 30, 2024	<u>96,054,375</u>	\$ <u>96,054</u>	\$ <u>73,649,614</u>	\$ <u>(70,952,914)</u>	\$ <u>2,792,754</u>

See accompanying notes to these condensed consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	For the Six Months Ended June 30, 2025	For the Six Months Ended June 30, 2024
Cash flows from operating activities		
Net loss	\$ (3,221,136)	\$ (9,001,789)
Adjustments to reconcile net loss to net cash (used in) operating activities:		
Stock-based compensation	79,955	906,994
Amortization of discount of notes payable	-	241,444
Amortization of right to use assets	22,367	16,280
Amortization of patent rights	102,300	102,300
Depreciation expense	51,462	1,578
Non-cash interest income	(19,703)	(31,524)
Loss on change in fair value of profit share	729,048	2,954,634
Changes in operating assets and liabilities		
Accounts receivable	(317,528)	763,774
Inventory	(209,086)	(169,818)
Prepaid expenses and other assets	71,900	46,162
Accrued salaries	2,606	562,752
Accounts payable and accrued liabilities	742,694	501,183
Operating lease liability	(20,626)	(16,589)
Net cash used in operating activities	<u>(1,985,747)</u>	<u>(3,122,619)</u>
Cash flows used in investing activities		
Purchase of property and equipment	(16,266)	(66,274)
Net cash used in investing activities	<u>(16,266)</u>	<u>(66,274)</u>
Cash flows used in financing activities		
Repayment of secured notes payable	-	(271,686)
Repayment of unsecured notes payable	-	(9,040,000)
Net cash used in financing activities	<u>-</u>	<u>(9,311,686)</u>
Net decrease in cash and cash equivalents	(2,002,013)	(12,500,579)
Cash and cash equivalents - beginning of period	3,456,082	20,939,762
Cash and cash equivalents - end of period	<u>\$ 1,454,069</u>	<u>\$ 8,439,183</u>
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid during the period for:		
Interest	\$ -	\$ 3,939
Income taxes	\$ 14,135	\$ 200,000
SUPPLEMENTAL DISCLOSURE OF NON-CASH TRANSACTIONS		
Capital from related party debt extinguishments	\$ -	\$ 10,827,195
Recognition of ROU asset and operating lease liability	\$ -	\$ 161,728

See accompanying notes to these condensed consolidated financial statements.

BIRCHTECH CORP. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
June 30, 2025 (Unaudited)

Note 1 - Organization

Birchtech Corp. and MES, Inc.

Birchtech Corp., formerly Midwest Energy Emissions Corp. (together with its consolidated subsidiaries, the “Company”), is organized under the laws of the State of Delaware. Effective on October 17, 2024, Midwest Energy Emissions Corp. changed its corporate name to Birchtech, Inc. pursuant to a certificate of amendment to its certificate of incorporation filed with the State of Delaware. MES, Inc. is incorporated in the State of North Dakota. MES, Inc. is a wholly owned subsidiary of Birchtech Corp. The Company is a provider of specialty activated carbon technologies and provides patented sorbent technologies for mercury emissions capture for the coal-fired utility sector and is developing water purification technologies with a specialization on forever chemicals such as PFAS and PFOS.

ME2C Sponsor LLC and ME2C Acquisition Corp.

ME2C Sponsor LLC is a limited liability company formed in the State of Delaware and is a wholly owned subsidiary of Birchtech Corp. and owns 85% of ME2C Acquisition Corp. A decision was made in January 2023 to liquidate these entities which are inactive.

Note 2 – Going Concern and Financial Condition

Under ASC 205-40, *Presentation of Financial Statements—Going Concern*, the Company has the responsibility to evaluate whether conditions and/or events raise substantial doubt about its ability to meet its future financial obligations as they become due within one year after the date that the financial statements are issued. As required by ASC 205-40, this evaluation shall initially not take into consideration the potential mitigating effects of plans that have not been fully implemented as of the date the financial statements are issued. Management has assessed the Company’s ability to continue as a going concern in accordance with the requirements of ASC 205-40.

The accompanying unaudited condensed consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. As reflected in the unaudited condensed consolidated financial statements, the Company had a net loss of approximately \$3.2 million and cash used in operating activities of \$2.0 million for the six months ended June 30, 2025; had cash of approximately \$1.5 million at June 30, 2025; and an accumulated deficit of approximately \$76.0 million at June 30, 2025. The Company’s working capital deficiency at June 30, 2025 was approximately \$5.7 million. The aforementioned factors raise substantial doubt about the Company’s ability to continue as a going concern within one year from the issuance date of the financial statements.

In addition to maintaining its revenue stream from its legacy mercury emissions control business, the Company’s plans and expectations over the next twelve months to mitigate such financial condition include receiving additional cash inflows from the judgment expected in connection with the \$57.1 million jury verdict awarded to the Company in March 2024, additional licensing revenues and product sales from the other patent litigation recently commenced, and revenues from the Company’s entry into the water treatment business. During 2024, the Company opened two new state of the art laboratories and added personnel to support our entry into the water business which the Company believes will lead to a vibrant new revenue stream. In addition, management is exploring additional financing opportunities. While management believes these plans will alleviate substantial doubt, there is no assurance that they will be successfully realized or implemented.

The accompanying unaudited condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of asset amounts or the classification of liabilities that might be necessary should the Company be unable to continue as a going concern within one year after the date the financial statements are issued.

Note 3 - Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and pursuant to the rules and regulations of Rule 8-03 of Regulation S-X promulgated by the United States Securities and Exchange Commission ("SEC") for interim financial information. Accordingly, these financial statements do not include all of the information and footnotes required for complete financial statements and should be read in conjunction with the audited consolidated financial statements and accompanying notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2024 filed on March 31, 2025, from which the accompanying condensed consolidated balance sheet dated December 31, 2024 was derived.

In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments (consisting of items of a normal and recurring nature) necessary to present fairly the Company's financial position as of June 30, 2025, and results of operations, changes in stockholders' deficit and cash flows for all periods presented. The interim results presented are not necessarily indicative of results that can be expected for a full year.

Principles of Consolidation

The unaudited condensed consolidated financial statements include the accounts of Birchtech Corp. (formerly Midwest Energy Emissions Corp.) and its wholly-owned subsidiaries, MES, Inc. and ME2C Sponsor LLC, and ME2C Acquisition Corp. which is 85% owned by ME2C Sponsor LLC. Intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of unaudited condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, valuation of equity issuances and disclosures of contingent assets and liabilities at the date of the unaudited condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. The Company uses estimates in accounting for, among other items, profit share liability, revenue recognition, allowance for credit losses, stock-based compensation, income tax provisions, excess and obsolete inventory reserve and impairment of intellectual property. Actual results could differ from those estimates.

Recoverability of Long-Lived and Intangible Assets

Long-lived assets and certain identifiable intangibles held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Events relating to recoverability may include significant unfavorable changes in business conditions, recurring losses or a forecasted inability to achieve break-even operating results over an extended period. The Company evaluates the recoverability of long-lived assets based upon forecasted undiscounted cash flows. Should impairment in value be indicated, the carrying value of the long-lived and/or intangible assets would be adjusted, based on estimates of future undiscounted cash flows.

The Company has evaluated the recoverability of the carrying value of the Company's property and equipment, right of use asset and intellectual property. No impairment charges were recognized for the three and six months ended June 30, 2025 and 2024.

Fair Value of Financial Instruments

The fair value hierarchy has three levels based on the inputs used to determine fair value, which are as follows:

- “ *Level 1* — Unadjusted quoted prices available in active markets for the identical assets or liabilities at the measurement date.
- “ *Level 2* — Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability.
- “ *Level 3* — Unobservable inputs that cannot be corroborated by observable market data and reflect the use of significant management judgment. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions.

The fair value hierarchy requires the use of observable market data when available. In instances where the inputs used to measure fair value fall into different levels of the fair value hierarchy, the fair value measurement has been determined based on the lowest level input significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular item to the fair value measurement in its entirety requires judgment, including the consideration of inputs specific to the asset or liability.

The profit share liability is the only item measured at fair value on a recurring basis by the Company at June 30, 2025 and December 31, 2024. The profit share liability is considered to be Level 3 measurements.

Financial instruments include cash, accounts receivable, accounts payable, and short-term debt. The carrying amounts of these financial instruments approximated fair value at June 30, 2025 and December 31, 2024 due to their short-term maturities.

At June 30, 2025, the fair value of the profit share liability is calculated using a discounted cash flow model based on estimated future cash payments. The fair value of the profit share liability at December 31, 2024 was also calculated using a discounted cash flow model based on estimated future cash payments. At June 30, 2025 and December 31, 2024, the fair value of the profit share liability was determined on a Level 3 measurement. These values are determined using pricing models for which the assumptions utilized management's estimates. Significant unobservable inputs include a discount rate of approximately 14.55% and the projection of future cash flows.

The following tables present the Company's liabilities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy.

	Fair Value Measurement as of June 30, 2025			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Profit share liability – related party (1)	\$ 7,582,906	\$ -	\$ -	\$ 7,582,906
Total Liabilities	<u>\$ 7,582,906</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 7,582,906</u>
	Fair Value Measurement as of December 31, 2024			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Profit share liability – related party (1)	\$ 6,853,858	\$ -	\$ -	\$ 6,853,858
Total Liabilities	<u>\$ 6,853,858</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 6,853,858</u>

(1) See Note 7 - Related Party

The following tables present the Company's assets that are measured at fair value on a non-recurring basis and are categorized using the fair value hierarchy.

	Fair Value Measurement as of December 31, 2024			
	Total	Level 1	Level 2	Level 3
Assets:				
Property and equipment (Construction in progress)	\$ 1,545,000	\$ -	\$ -	\$ 1,545,000
Total Assets	<u>\$ 1,545,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 1,545,000</u>

Revenue Recognition

The Company records revenue in accordance with ASC 606, *Revenue from Contracts with Customers*. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve that core principle, an entity should apply the following steps:

- Step 1: Identify the contract(s) with a customer.
- Step 2: Identify the performance obligations in the contract.
- Step 3: Determine the transaction price.
- Step 4: Allocate the transaction price to the performance obligations in the contract.
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

Revenue is recognized when the Company satisfies its performance obligation under the contract by transferring the promised product to its customer that obtains control of the product. A performance obligation is a promise in a contract to transfer a distinct product to a customer. Most of the Company's contracts have a single performance obligation, as the promise to transfer products or services is not separately identifiable from other promises in the contract and, therefore, not distinct.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products. As such, revenue is recorded net of returns, allowances, customer discounts, and incentives. Sales and other taxes are excluded from revenues. Invoiced shipping and handling costs are included in revenue.

Disaggregation of Revenue

The Company generated revenue for the three and six months ended June 30, 2025 and 2024 by (i) delivering product to its commercial customers, (ii) completing and commissioning equipment projects at commercial customer sites and (iii) performing demonstrations of its technology at customers with the intent of entering into long term supply agreements based on the performance of the Company's products during the demonstrations and (iv) licensing its technology to customers.

Revenue for product sales is recognized at the point of time in which the customer obtains control of the product, at the time title passes to the customer upon shipment or delivery of the product based on the applicable shipping terms.

Licensing revenue includes the licensing of the Company's intellectual property ("IP"). Revenue for IP rights is accounted for based on the nature of the promise to grant the license. In determining whether the Company's promise is to provide a right to access its IP or a right to use its IP, the Company considers the nature of its IP to which the customer will have rights. IP is either functional IP which has significant standalone functionality or symbolic IP which does not have significant standalone functionality. Revenue from functional IP is recognized at the point in time when control of the distinct license is transferred to the customer. Revenue from symbolic IP is recognized over the access period to the Company's IP.

The licenses provide the customer with the right to use the Company's patented technologies as they exist at a point in time when the license is granted, for the duration of the contract term. The patented technology has stand-alone functionality, and the Company has no obligation to provide any future updates. During the three and six months ended June 30, 2025 and 2024, the Company recognized \$0 and \$525,000, respectively (2024 - \$0 and \$140,625, respectively) of revenue for licenses for which revenue was recognized at a point in time and \$0 (2024 - \$0) for licenses for which revenue was recognized over time.

When a license arrangement contains payment terms beyond one year, a significant financing component may exist. The significant financing component is calculated as the difference between the stated value and present value of the license fees and is recognized as interest income over the payment period.

Variable consideration is recorded as revenue only to the extent that a significant reversal of cumulative revenue recognized is not probable of occurring when the uncertainty associated with the variable consideration is subsequently resolved. Significant judgment is required in estimating variable consideration for the performance obligation identified in the contract and this judgment involves assessing factors outside of our influence.

Revenue for equipment sales is recognized upon commissioning and customer acceptance of the installed equipment per the terms of the purchase contract.

Revenue for demonstrations and consulting services is recognized when performance obligations contained in the contract have been completed, typically the completion of necessary field work and the delivery of any required analysis per the terms of the agreement.

The following table presents sales by operating segment disaggregated based on the type of revenue for the three and six months ended June 30, 2025 and 2024. All sales were in the United States.

	For the Three Months Ended June 30, 2025	For the Three Months Ended June 30, 2024
Product revenue	\$ 3,244,446	\$ 3,302,936
License revenue	-	-
Demonstrations & Consulting revenue	9,000	12,000
Equipment revenue	465	46,497
	<hr/> <u>\$ 3,253,911</u>	<hr/> <u>\$ 3,361,433</u>
	For the Six Months Ended June 30, 2025	For the Six Months Ended June 30, 2024
Product revenue	\$ 5,921,430	\$ 6,387,024
License revenue	525,000	140,625
Demonstrations & Consulting revenue	18,000	18,000
Equipment revenue	10,492	57,550
	<hr/> <u>\$ 6,474,922</u>	<hr/> <u>\$ 6,603,199</u>

Accounts receivable and allowance for credit losses

Accounts receivable are presented net of an allowance for credit losses. The Company reviews the accounts receivable on a periodic basis and makes general and specific allowances when there is doubt as to the collectability of individual balances. In evaluating the collectability of individual receivable balances, the Company considers many factors, including the age of the balance, a customer's payment history, its current credit-worthiness and current economic trends. Accounts are written off after exhaustive efforts at collection.

Management believed that the accounts receivable were fully collectable and no allowance for credit losses was deemed to be required on its accounts receivable at June 30, 2025. The Company historically has not experienced significant uncollectible accounts receivable. As of June 30, 2025 and December 31, 2024, the Company's allowance for credit losses was \$0, and the Company recorded \$0 of bad debt expense for both the six months ended June 30, 2025 and 2024.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs consist of costs incurred to discover, research and develop products, and include personnel expenses, facility-related and depreciation expenses, and external costs of outside suppliers.

Income Taxes

The Company follows the asset and liability method of accounting for income taxes under FASB ASC 740, *Income Taxes*. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that included the enactment date. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

FASB ASC 740 prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more likely than not to be sustained upon examination by taxing authorities. There were no unrecognized tax benefits as of June 30, 2025 and 2024. The Company is currently not aware of any issues under review that could result in significant payments, accruals or material deviation from its position. The Company is no longer subject to tax examinations by tax authorities for the years prior to 2020.

The Company may be subject to potential examination by federal, state, and city taxing authorities in the areas of income taxes.

These potential examinations may include questioning the timing and amount of deductions, the nexus of income among various tax jurisdictions, and compliance with federal, state, and city tax laws. Management does not expect that the total amount of unrecognized tax benefits will materially change over the next twelve months.

Basic and Diluted Income (Loss) Per Common Share

Income (loss) per share – basic is calculated by dividing net income (loss) by the weighted average number of shares of stock outstanding during the year, including shares issuable without additional consideration. Income per share – assuming dilution is calculated by dividing net income by the weighted average number of shares outstanding during the year adjusted for the effect of dilutive potential shares from options and warrants calculated using the treasury stock method and the if-converted method for preferred stock. There were no dilutive potential common shares for periods ended June 30, 2025 and 2024, because the Company incurred a net loss and basic and diluted losses per common share are the same.

Total common stock equivalents excluded from dilutive loss per share are as follows:

	June 30, 2025	June 30, 2024
Stock options	8,400,000	9,362,500
Warrants	-	1,300,000
Restricted stock units	-	50,000
Total common stock equivalents excluded from dilutive loss per share	<u>8,400,000</u>	<u>10,712,500</u>

Concentration of Credit Risk

Financial instruments that subject the Company to credit risk consist of cash and equivalents on deposit with financial institutions and accounts receivable. The Company's cash as of June 30, 2025 and December 31, 2024 is maintained at high-quality financial institutions and has not incurred any losses to date. Accounts are guaranteed by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000. At June 30, 2025 and December 31, 2024, the Company had \$954,069 and \$2,956,082, respectively, in excess of FDIC limits.

Customer and Supplier Concentration

For the six months ended June 30, 2025, three customers represented 32%, 12%, and 11% of the Company's revenues, and for six months ended June 30, 2024, three customers represented 35%, 15%, and 14% of the Company's revenues.

At June 30, 2025, three customers represented 35%, 20%, and 13% of the Company's accounts receivable, and at December 31, 2024, three customers represented 32%, 26% and 9% of the Company's accounts receivable

For the six months ended June 30, 2025, 91% of the Company's purchases related to two suppliers. For the six months ended June 30, 2024, 88% of the Company's purchases related to two suppliers. At June 30, 2025 and 2024, 76% and 73% of the Company's accounts payable and accrued expenses related to two vendors, respectively. The Company believes there are numerous other suppliers that could be substituted should a supplier become unavailable or non-competitive.

Contingencies

Certain conditions may exist which may result in a loss to the Company, but which will only be resolved when one or more future events occur or fail to occur. The Company's management and its legal counsel assess such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against the Company, or unasserted claims that may result in such proceedings, the Company's legal counsel evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, the estimated liability would be accrued in the Company's unaudited condensed consolidated financial statements. If the assessment indicates that a potentially material loss contingency is not probable but is reasonably possible, or is probable but cannot be estimated, the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed.

Loss contingencies considered remote are generally not disclosed unless they arise from guarantees, in which case the guarantees would be disclosed.

Recently Issued Accounting Standards

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which is intended to provide enhancements to annual income tax disclosures. The standard will require more detailed information in the rate reconciliation table and for income taxes paid, among other enhancements. The standard is effective for years beginning after December 15, 2024 and early adoption is permitted. Since ASU 2023-09 addresses only disclosures, the adoption of ASU 2023-09 is not expected to have a significant impact on its unaudited condensed consolidated financial statements.

In November 2024, the FASB issued ASU No. 2024-03, *Income Statement – Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses*. This ASU requires entities to disaggregate expense items in the notes to the financial statements and requires disclosure of specified information related to purchases of inventory, employee compensation, depreciation, and intangible asset amortization. The amendments in this ASU are effective for annual periods beginning after December 15, 2026, and interim periods beginning after December 15, 2027. Companies have the option to apply the guidance either on a retrospective or prospective basis, and early adoption is permitted. The Company is currently evaluating the impact of the ASU on its consolidated financial statements and related disclosures. In January 2025, the FASB issued ASU No. 2025-01, *Income Statement – Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40): Clarifying the Effective Date*. This ASU amends the effective date of ASU No. 2024-03 to clarify that all public business entities are required to adopt the guidance in annual reporting periods beginning after December 15, 2026, and interim periods within annual reporting periods beginning after December 15, 2027. Early adoption of ASU No. 2024-03 is permitted.

Note 4 - Inventory

Inventory was comprised of the following at June 30, 2025 and December 31, 2024:

	June 30, 2025	December 31, 2024
Raw Materials	\$ 220,571	\$ 169,527
Finished Goods	610,328	452,286
	<u>\$ 830,899</u>	<u>\$ 621,813</u>

Note 5 - Property and Equipment, Net

Property and equipment at June 30, 2025 and December 31, 2024 are as follows:

	June 30, 2025	December 31, 2024
Equipment & installation	\$ 1,096,979	\$ 1,096,979
Leasehold improvements	117,512	117,512
Trucking equipment	911,377	911,377
Lab equipment	741,893	725,626
Office equipment, computer equipment and software	1,874	1,874
Total equipment	<u>2,869,635</u>	<u>2,853,368</u>
Less: accumulated depreciation	(2,099,142)	(2,047,680)
Construction in process	1,545,000	1,545,000
Property and equipment, net	<u>\$ 2,315,493</u>	<u>\$ 2,350,688</u>

The Company uses the straight-line method of depreciation over estimated useful lives of 2 to 5 years. During the three months ended June 30, 2025 and 2024, depreciation expense was \$41,164 and \$1,043, respectively. During the six months ended June 30, 2025 and 2024, depreciation expense was \$51,462 and \$1,578, respectively.

Note 6 - Intellectual Property

License and patent costs capitalized as of June 30, 2025 and December 31, 2024 are as follows:

	June 30, 2025	December 31, 2024
Licenses and patents	\$ 3,068,995	\$ 3,068,995
Less: Accumulated amortization	(1,671,832)	(1,569,532)
Intellectual property, net	<u>\$ 1,397,163</u>	<u>\$ 1,499,463</u>

Amortization expense for the three months ended June 30, 2025 and 2024 was \$51,150 and \$51,150, respectively. Amortization expense for the six months ended June 30, 2025 and 2024 was \$102,300 and \$102,300, respectively. Estimated annual amortization for each of the next 5 years and thereafter is as follows:

Annual amortization for the years ended:

December 31, 2025 (remaining)	\$ 102,300
December 31, 2026	204,600
December 31, 2027	204,600
December 31, 2028	204,600
December 31, 2029	204,600
Thereafter	476,463
Total	<u>\$ 1,397,163</u>

Note 7 - Related Party

Secured Note Payable

On November 29, 2016, pursuant to a restated financing agreement entered with AC Midwest Energy, LLC (“AC Midwest”) on November 1, 2016, the Company closed on a secured note with AC Midwest (the “AC Midwest Secured Note”), which was to mature on December 15, 2018. AC Midwest is wholly-owned by a stockholder of the Company. The AC Midwest Secured Note is guaranteed by MES, is non-convertible and bears interest at a rate of 15.0% per annum, payable quarterly in arrears on or before the last day of each fiscal quarter. On February 25, 2019, per Amendment No. 3 to the Amended and Restated Financing Agreement, AC Midwest extended the maturity date from December 15, 2018 to August 25, 2022.

On October 28, 2022, the Company, along with MES, and AC Midwest, executed Amendment No. 4 to the Amended and Restated Financing Agreement pursuant to which the maturity date of the AC Midwest Secured Note was extended to August 25, 2025. In addition, the interest rate on the remaining principal balance was reduced from 15.0% to 9.0% per annum. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$54,983 for the year ended December 31, 2022 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On February 27, 2024, the Company paid AC Midwest \$275,625 representing the remaining principal balance under the AC Midwest Secured Note of \$271,686 plus interest of \$3,939. As a result of the repayment of the remaining principal balance under the AC Midwest Secured Debt, the Company and AC Midwest executed a Satisfaction and Discharge of Secured Debt confirming the cancellation of the AC Midwest Secured Note.

As of June 30, 2025 and December 31, 2024, total principal of \$0 and \$0, respectively, was outstanding on this note. Interest expense for the three months ended June 30, 2025 and 2024 was \$0 and \$0, respectively. Interest expense for the six months ended June 30, 2025 and 2024 was \$0 and \$4,279, respectively.

Amortized discount recorded as interest expense for the three months ended June 30, 2025 and 2024 was \$0 and \$0, respectively. Amortized discount recorded as interest expense for the six months ended June 30, 2025 and 2024 was \$0 and \$32,220, respectively. As of June 30, 2025 and December 31, 2024, the unamortized balance of the discount was \$0 and \$0, respectively.

Unsecured Note Payable

On November 29, 2016, pursuant to a restated financing agreement entered with AC Midwest on November 1, 2016, the Company closed on an unsecured note with AC Midwest (the “AC Midwest Subordinated Note”), which was to mature on December 15, 2020. On February 25, 2019, the Company, entered into an Unsecured Note Financing Agreement (the “Unsecured Note Financing Agreement”) with AC Midwest, pursuant to which AC Midwest issued an unsecured note in the principal amount of \$13,154,931 (the “AC Midwest Unsecured Note”), which represented the outstanding principal and accrued and unpaid interest at closing. The AC Midwest Unsecured Note, which replaced the AC Midwest Subordinated Note, was scheduled to mature on August 25, 2022 and bear a zero cash interest rate.

The Company determined that the rate of interest on the AC Midwest Subordinated Note was a below market rate of interest and determined that a discount of \$6,916,687 should be recorded. This discount was based on an applicable market rate for unsecured debt for the Company of 21% and is being amortized as interest expense over the life of the loan.

On August 30, 2022, AC Midwest agreed to an extension of the maturity date of the AC Midwest Unsecured Note (and AC Midwest Secured Note) from August 25, 2022 to September 30, 2022. Such extension was expected to provide the Company sufficient time in which to conclude the process of negotiating certain changes and modifications to such financing arrangements. On September 28, 2022, AC Midwest agreed to an additional short-term extension of such maturity date from September 30, 2022 to October 31, 2022. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$488,274 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On October 28, 2022, the Company, along with MES, and AC Midwest, executed Amendment No. 1 to Unsecured Note Financing Agreement pursuant to which the maturity date of the AC Midwest Unsecured Note was extended to August 25, 2025. In addition, the parties agreed that the Profit Share (see "Profit Share" below) be increased by \$4,500,000 from \$13,154,931 (representing 1.0 times the original principal amount) to \$17,654,931. The Company has accounted for the extension as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$3,234,469 on this exchange which is related to the difference in fair value of the note on the date of the exchange.

On February 27, 2024, the Company entered into an Unsecured Debt Restructuring Agreement (the "Debt Restructuring Agreement") with AC Midwest which replaces and supersedes the Unsecured Note Financing Agreement. Pursuant to the Debt Restructuring Agreement, on February 27, 2024, the Company (i) paid AC Midwest \$9,040,000 as a reduction in the outstanding principal balance of the AC Midwest Unsecured Note, and (ii) issued to AC Midwest a new unsecured replacement note representing the remaining outstanding principal balance of the Unsecured Note in the principal amount of \$4,114,931 (the "New Note"). In addition, within 30 days, the Company would either facilitate the private sale to third parties of certain shares of common stock of the Company held by AC Midwest for a purchase price of no less than \$960,000, which amount shall be applied as a credit against the principal balance due on the New Note dollar for dollar, or pay AC Midwest \$960,000 toward the principal balance due on the New Note. The private sale of shares for the purchase price of \$960,000 was completed on March 11, 2024. Any remaining principal balance on the New Note shall be due August 27, 2024 (the "New Note Maturity Date"), which is six months from February 27, 2024. Until repaid in full, the New Note shall accrue interest at a rate equal to SOFR plus 2.0% per annum. The New Note completely replaced and superseded the AC Midwest Unsecured Note, which shall be of no further force and effect.

On August 26 and 27, 2024, the Company repaid AC Midwest the remaining principal of \$3,154,931 on the New Note together with accrued interest of \$119,964. As a result, the only remaining debt obligation under the Debt Restructuring Agreement is the profit participation as described below.

The Company has accounted for the February 27, 2024 modification as debt extinguishment with a related party. As such the Company recorded a capital charge of \$1,005,984 on this exchange which is related to the difference in fair value of the New Note on the date of the exchange. The New Note represented a hybrid instrument and the Company elected to apply fair value option accounting to the New Note. Cash flows of the hybrid instrument in its entirety are discounted at an appropriate rate for the applicable duration of the instrument. Interest on the interest-bearing portion of the instrument that is held to maturity is aggregated as loss on change in fair value of profit share and unsecured note in the consolidated statements of operations.

Amortized discount recorded as interest expense for the three months ended June 30, 2025 and 2024 was \$0 and \$0, respectively. Amortized discount recorded as interest expense for the six months ended June 30, 2025 and 2024 was \$0 and \$209,224, respectively. As of June 30, 2025 and December 31, 2024 the unamortized balance of the discount was \$0 and \$0, respectively.

Profit Share

Pursuant to the Unsecured Note Financing Agreement, AC Midwest was also entitled to a "non-recourse" profit participation preference equal to 1.0 times the original principal amount of the AC Midwest Unsecured Note which on October 28, 2022 was increased to \$17,654,931 (the "Profit Share"). Prior to maturity, the outstanding principal, as well as the Profit Share, were to be paid from Net Litigation Proceeds from claims relating to the Company's intellectual property, Net Revenue Share, Adjusted Free Cash Flow and Equity Offering Net Proceeds (as such terms are defined in the Unsecured Note Financing Agreement). Any remaining principal balance due on the Unsecured Note would be due and payable in full on the maturity date. The Profit Share, however, if not paid in full on or before the maturity date would remain subject to the Unsecured Note Financing Agreement until full and final payment.

Pursuant to the Debt Restructuring Agreement, AC Midwest was granted a profit participation preference equal to \$7,900,000 (the "Restructured Profit Share") which replaces and supersedes the terms and conditions of the Profit Share in the amount of \$17,654,931 provided for in the Unsecured Note Financing Agreement, which shall be of no further force and effect. The Restructured Profit Share is "non-recourse" and shall only be paid from Net Litigation Proceeds (as defined in the Debt Restructuring Agreement) from claims relating to the Company's intellectual property. Following the receipt of any Net Litigation Proceeds, the Company shall prepay any remaining principal balance of the New Note and pay the Restructured Profit Share in an amount equal to 75.0% of such Net Litigation Proceeds until the New Note and Restructured Profit Share have been paid in full. The Restructured Profit Share, if not paid in full on or before the New Note Maturity Date, shall remain subject to the terms of the Debt Restructuring Agreement.

In addition to facilitating the private sale to third parties as described above, AC Midwest granted the Company the exclusive right until December 31, 2024 to facilitate the sale of all or a portion of the remaining balance of the shares of common stock of the Company held by AC Midwest, which proceeds above a certain amount will be applied as a credit against the Restructured Profit Share dollar for dollar (the “Facilitation Credit”). As of December 31, 2024, the Company had not facilitated the sale of any portion of the remaining shares held by AC Midwest. As a result, no Facilitation Credit has been issued to the Company.

The Company has accounted for the February 27, 2024 modification as debt extinguishment with a related party. As such the Company recorded a capital contribution of \$11,833,179 on this exchange which is related to the difference in fair value of the Restructured Profit Share on the date of the exchange.

The Company is utilizing the methodology behind the ASC 815, *Derivatives and Hedging* and ASC 480, *Distinguishing Liabilities from Equity* to determine how to account for the profit-sharing portion of the note payable. Although the transaction is not indexed to MEEC’s common stock the profit sharing has the characteristics of a freestanding financial instrument because the profit sharing is not callable by the lender, it will be paid out past the maturity of the Unsecured Note Payable and, the fair value will fluctuate over time based on payment predictions. The Profit Share was determined to have a fair value of \$3,389,043 upon grant. The fair value of the Profit Share upon grant included \$3,422,400 attributed to the Facilitation Credit which reduced the fair value of the Profit Share liability. At December 31, 2024, the Facilitation Credit had expired and the fair value attributed to the feature was \$0. This increased the fair value of the Profit Share at December 31, 2024, and increased the loss on change in fair value of the profit share recorded during the year ended December 31, 2024 by \$3,422,400. The discounted cash flow model assumptions used at June 30, 2025 to calculate the Profit Share liability included: the projected full repayment of the profit share liability of \$7,900,000 upon the receipt of Net Litigation Proceeds in 2025, and an annual market interest rate of 14.55%. The discounted cash flow model assumptions used at December 31, 2024 to calculate the Profit Share liability included: the projected full repayment of the profit share liability of \$7,900,000 upon the receipt of Net Litigation Proceeds in 2025, and an annual market interest rate of 14.55%. The profit share liability will be marked to market every quarter utilizing management’s estimates.

The following are the changes in the profit share liability (the only Level 3 financial instrument) during the six months ended June 30, 2025 and the year ended December 31, 2024:

Profit Share as of January 1, 2024	\$ 14,847,937
Modification	(11,833,179)
Loss on change in fair value of profit share	3,839,100
Profit Share as of December 31, 2024	<u>\$ 6,853,858</u>
Profit Share as of January 1, 2025	\$ 6,853,858
Loss on change in fair value of profit share	729,048
Profit Share as of June 30, 2025	<u>\$ 7,582,906</u>

Related Party Transactions

Kaye Cooper Kay & Rosenberg, LLP provides certain legal services to the Company and the Company incurred \$112,500 and \$101,583 for the three months ended June 30, 2025 and 2024, respectively, and \$225,000 and \$202,277, respectively, for legal services rendered and disbursement incurred for the six months ended June 30, 2025 and 2024. David M. Kaye, a Director of the Company, is a partner of the law firm. At June 30, 2025 and December 31, 2024, \$37,500 and \$37,500, respectively, was owed to the firm for services rendered.

On January 31, 2023, the Company entered into a License and Supply Agreement with Dakin Holdings Ltd., a company incorporated in Barbados (“Dakin”), effective as of January 1, 2023 (the “Dakin Agreement”), pursuant to which Dakin has granted to the Company (i) a limited license to manufacture and produce for Dakin products comprising certain intellectual property owned by Dakin (the “Dakin IP”), and (ii) an exclusive license to commercialize the Dakin IP in the United States. In addition, the Company shall pay Dakin a license fee of \$12,500 per month for a three-year period commencing as of the effective date and ending December 31, 2025, and pay Dakin a royalty on all sales in the United States of the products comprising the Dakin IP made by the Company. On November 18, 2024, the parties entered into an amendment to the Dakin Agreement which eliminated all further monthly license fees after September 30, 2024. Dakin is a company owned and controlled by the Company’s Chief Executive Officer and President. The Dakin Agreement is for a term of ten years unless terminated earlier under certain circumstances as set forth therein. For the three months ended June 30, 2025 and 2024, Dakin incurred \$0 and \$37,500 license fees. For the six months ended June 30, 2025 and 2024, Dakin incurred \$0 and \$75,000 license fees. At June 30, 2025 and December 31, 2024, \$0 and \$0 was owed to Dakin for license fees.

Note 8 - Operating Leases

On July 1, 2015, the Company entered into a five-year lease for warehouse space in Corsicana, Texas. The Company is also responsible for the pro rata share of the projected monthly expenses for the property taxes. The current pro rata share is \$882. On June 1, 2019, the lease was extended to March 31, 2024, and on March 28, 2024, the lease was further extended for an additional five years from March 31, 2024 to March 31, 2029. Rent is \$3,750 monthly until March 31, 2026 and then \$3,866 per month until March 31, 2029. The Company recorded a right of use asset and an operating lease liability of \$161,728. This amount represents the difference between the value from the remaining lease and the extended lease.

On August 1, 2024, the Company entered into a 3-year lease for laboratory space in Grand Forks, North Dakota. The lease contains an option to extend for a further three years that the Company is reasonably certain to exercise. As a result, the additional three year extension is included as part of the lease term. Rent is \$1,400 monthly until July 31, 2027, and then effectively \$1,540 per month until July 31, 2030. Upon commencement of the lease the Company recorded a right of use asset and an operating lease liability of \$69,615.

On November 22, 2024, the Company entered into an approximate 3-year lease for laboratory space in State College, Pennsylvania, commencing December 15, 2024 and ending November 30, 2027. The lease contains an option to extend for a further three years that the Company is reasonably certain to exercise. As a result, the additional three year extension is included as part of the lease term. Rent is \$1,800 monthly until November 30, 2025, \$1,860 monthly thereafter until November 30, 2026, and \$1,920 monthly thereafter until November 30, 2027. During the option period, rent is \$1,980 monthly from December 1, 2027 to November 30, 2028, \$2,040 monthly thereafter through November 30, 2029, and \$2,100 monthly thereafter through November 30, 2030. Upon commencement of the lease the Company recorded a right of use asset and an operating lease liability of \$94,942.

For the six months ended June 30, 2025 and the year ended December 31, 2024, the Company recorded an operating lease right of use asset and liabilities as follows:

	June 30, 2025	December 31, 2024
Right of use asset - operating lease	\$ 282,775	\$ 305,142
Current portion of operating lease liability	46,614	42,733
Operating lease liability	285,597	306,223

Future remaining minimum lease payments under these non-cancelable leases are as follows:

For the twelve months ended June 30,	
2026	\$ 84,168
2027	85,932
2028	88,192
2029	77,454
2030	43,380
Thereafter	<u>12,041</u>
Total	<u>391,167</u>
Less discount	<u>(105,570)</u>
Total lease liabilities	<u>285,597</u>
Less current portion	<u>(46,614)</u>
Operating lease obligation, net of current portion	<u><u>\$ 238,983</u></u>

The weighted average remaining lease term for operating leases is 4.70 years and the weighted average discount rate used in calculating the operating lease asset and liability is 14.55%. For the six months ended June 30, 2025 and 2024, payments on lease obligations were \$41,700 and \$22,500, respectively, and amortization of the right of use assets was \$22,367 and \$16,280, respectively.

For the six months ended June 30, 2025 and 2024, the Company's lease cost consists of the following components, each of which is included in costs and expenses within the Company's unaudited condensed consolidated statements of operations:

	For the Six Months Ended June 30, 2025	For the Six Months Ended June 30, 2024
Operating lease costs	\$ 43,441	\$ 22,352

Note 9 - Commitments and Contingencies

Fixed Price Contract

The Company's multi-year contracts with its commercial customers contain fixed prices for product. These contracts expire between 2023 and 2025 and expose the Company to the potential risks associated with rising material costs during that same period.

Legal proceedings

The Company has commenced multiple patent infringement lawsuits to enforce its proprietary two-part Sorbent Enhancement Additive (SEA®) process for mercury removal from coal-fired power plants. These actions, filed between 2019 and 2025, target various operators of coal-fired power plants and refined coal producers whom the Company alleges have willfully infringed its patent rights. The Company is seeking damages, injunctive relief, and other remedies in each of these proceedings.

Delaware District Court Action

In July 2019, the Company initiated patent litigation against various defendants in the U.S. District Court for the District of Delaware which included (i) Vistra Energy Corp., AEP Generation Resources Inc., NRG Energy, Inc., Talen Energy Corporation, and certain of their respective affiliated entities, all of which are owners and/or operators of coal-fired power plants in the United States, and (ii) Arthur J. Gallagher & Co., DTE REF Holdings, LLC, CERT Coal Holdings LLC, Chem-Mod LLC, and certain of their respective affiliated entities, and additional named and unnamed defendants, all of which operate or are involved in operations of coal facilities in the United States.

Between July 2020 and January 2021, the Company entered into agreements with each of the four major utility defendants which included certain monetary arrangements and pursuant to which the Company dismissed all claims brought against each of them and their affiliates.

In November 2023, the Company entered into a confidential binding term sheet with Arthur J. Gallagher & Co., and various of its affiliated entities, and DTE Energy Resources LLC and various of its affiliated entities, to resolve the patent litigation. Pursuant to the term sheet, all claims and counterclaims asserted by the parties in such patent litigation have been dismissed with prejudice, although such term sheet does not affect any other claim brought against the remaining CERT defendants. In November 2023, Alistar Enterprises, LLC, one of the remaining CERT defendants, entered into a settlement agreement with the Company.

In December 2023, and in connection with the term sheet described above, the Company, along with its wholly-owned subsidiary, MES, Inc., and (a) Chem-Mod LLC (“Chem-Mod”), (b) Arthur J. Gallagher & Co. and AJG Coal, LLC, and (c) DTE Energy Co. and DTE Energy Resources, LLC, entered into a paid license of U.S. Patent No. 8,168,147, U.S. Patent No. 10,343,114, U.S. Patent No. 10,589,225, U.S. Patent No. 10,596,517 and U.S. Patent No. 10,668,430 and their foreign equivalents and related patent applications and patents, which licenses the use of refined coal or the Chem-Mod Solution in conjunction with activated carbon. This license applies to Chem-Mod and certain of its licensees, sub-licensees, and their customers, for the remaining term of such patents. By its terms, the license does not cover the use of activated carbon with coal that is not either refined coal or coal made by or for use with the Chem-Mod Solution in a manner authorized by the license. The parties to the license have mutually released all claims that any past use of the Chem-Mod Solution in connection with the production or use of refined coal with activated carbon by entities other than the CERT defendants and their customers infringes the asserted patents and related intellectual property, and all claims that could have been brought challenging the validity of such patents. The remaining CERT defendants and their customers (for activities relating to the CERT defendants) were not included within the scope of the license.

The case proceeded to trial in February 2024 against the remaining CERT defendants. On March 1, 2024, a federal jury returned a \$57.1 million verdict in favor of the Company against the remaining CERT defendants, finding willful infringement of the Company’s patented technologies and holding the defendants liable for inducing and contributory infringement. Such group of affiliated defendants included multiple limited liability companies with refined coal industry operations, including CERT Operations II LLC, CERT Operations IV LLC, CERT Operations V LLC, and CERT Operations RCB LLC. Following the trial, the Court entered non-final judgments on the verdict against the CERT defendants and the parties submitted post-trial motions relating to the jury trial. The CERT defendants also asserted that the Company’s claims were barred due to their defense that they had an implied license to the asserted patents. A bench trial was held on such issue. On June 10, 2025, the Court ruled that the CERT defendants failed to prove that they had such an implied license and denied their motion to alter or amend the non-final judgment. The Company is awaiting the Court’s determination as to the final judgment.

2024-2025 Patent Infringement Actions

In July 2024, the Company commenced three additional patent infringement lawsuits in U.S. District Courts in Arizona, Iowa and Missouri against multiple utilities and related entities. These actions allege willful infringement of the Company’s patents related to mercury emissions control. Named as defendants in the action filed in the U.S. District Court for the District of Arizona are Tucson Electric Power Co., San Carlos Resources, Inc., Salt River Project Agricultural Improvement and Power District, Tri-State Generation and Transmission Association, Inc., Springerville Unit 3 Holding LLC, and Springerville Unit 3 Partnership LP. Named as defendants in the action filed in the U.S. District Court for the Southern District of Iowa are Berkshire Hathaway Energy Company, MidAmerican Energy Company, PacifiCorp, Alliant Energy Corporation, Interstate Power and Light Company, and Wisconsin Power and Light Company, and named as defendants in the action filed in the U.S. District Court for the Eastern District of Missouri are Ameren Corp. and Union Electric Co.

In October 2024, the Company entered into an agreement with one of the utility defendants and an affiliated entity in the Arizona action, and in January 2025, the Company entered into an agreement with another utility named in the Arizona action. Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to the Company’s two-part Sorbent Enhancement Additive (SEA®) process for use in connection with a certain designated coal-fired power plant operated by them. The agreements include one-time license fees which have been received by the Company. One agreement provides the Company with a right of first refusal for certain of such utility’s product supply for mercury emissions capture at such designated power plant and the other agreement provides the Company with the right to be included in such party’s bidding process for certain product supply for mercury emissions capture at such party’s designated power plant. Such lawsuit will continue against the other non-affiliated defendants named in the Arizona action.

On December 17, 2024, the U.S. Judicial Panel on Multidistrict Litigation ordered the consolidation of the three lawsuits in the U.S. District Court for the Southern District of Iowa for coordinated pretrial proceedings. In January 2025, the Company initiated an additional infringement suit in the Western District of Missouri against several Evergy-affiliated entities, which was transferred to the Iowa court in February 2025 pursuant to the existing transfer order. Named as defendants in the action are Evergy, Inc., Evergy Metro Inc., Evergy Missouri West, Inc. and Evergy Kansas Central, Inc.

In January and February 2025, certain defendants in the consolidated Iowa actions filed Inter Partes Review petitions with the U.S. Patent and Trademark Office seeking to invalidate various asserted claims. Such matter remains pending.

Except for the foregoing disclosures, the Company is not presently aware of any other material pending legal proceedings to which the Company is a party or of which any of its property is the subject.

Litigation, including patent litigation, is inherently subject to uncertainties. As such, there can be no assurance that the Company will be successful in litigating and/or settling any of these claims. The Company expenses legal costs relating to patent litigation as incurred.

Note 10 - Stock Based Compensation

Stock Based Compensation

The Company accounts for stock-based compensation awards in accordance with the provisions of ASC 718, which addresses the accounting for employee stock options which requires that the cost of all employee stock options, as well as other equity-based compensation arrangements, be reflected in the unaudited condensed consolidated financial statements over the vesting period based on the estimated fair value of the awards.

Stock based compensation consists of the amortization of common stock, stock options, restricted share units and warrants issued to employees, directors and consultants. For the three months ended June 30, 2025 and 2024, stock-based compensation expense amounted to \$19,428 and \$136,778, respectively. For the six months ended June 30, 2025 and 2024, stock-based compensation expense amounted to \$79,955 and \$906,994, respectively. Such expense is classified in selling, general and administrative expenses.

On July 3, 2023, the Board of Directors of the Company approved and adopted the Company's Amended and Restated 2014 Equity Incentive Plan (the "2014 Plan") and the Company's Amended and Restated 2017 Equity Incentive Plan (the "2017 Plan") which amended the Company's previously adopted 2014 Equity Incentive Plan and 2017 Equity Incentive Plans. Such amendments were made in accordance with the requirements of the TSX Venture Exchange. The 2014 Equity Incentive Plan was first approved by the Board on January 10, 2014. The 2017 Equity Incentive Plan replaced the 2014 Equity Incentive Plan, which was terminated by the Board on April 28, 2017. As a result of such termination, no additional awards may be granted under the 2014 Equity Incentive Plan but previously granted awards shall remain outstanding in accordance with their terms and conditions. The 2017 Plan was adopted by the Board on February 9, 2017. As amended by the Board on July 3, 2023, the maximum number of shares of common stock that may be issued under the 2017 Plan after July 3, 2023 is 14,078,459, and to the extent any award (or portion thereof) outstanding under the 2014 Plan expires, terminates or is cancelled, surrendered or forfeited for any reason on or after July 3, 2023, the shares of common stock subject to such award (or portion thereof) shall be added to and increase the foregoing limit, to a maximum of 4,775,000 additional shares of common stock. (On July 3, 2023, there were 4,775,000 options and no other types of awards outstanding under the 2014 Plan.) On October 29, 2024, the Board approved certain non-material amendments to the 2014 Plan and 2017 Plan which amendments were made in connection with the listing of the Company's shares on the Toronto Stock Exchange ("TSX") and graduation from the TSX Venture Exchange to the TSX. As of June 30, 2025, there were 5,641,306 shares remaining available for issuance under the 2017 Plan.

Common Stock

On November 8, 2022, the Company issued a total of 3,000,000 shares of common stock to the Chief Executive Officer. These shares of common stock were valued at \$960,000 in accordance with FASB ASC Topic 718. The fair value of the shares will be amortized as an expense over the vesting period. The shares became fully vested on November 8, 2024. The expense for the six months ended June 30, 2025 and 2024 was \$0 and \$242,666, respectively.

On March 19, 2025, the Company announced that its Board of Directors authorized a share repurchase program under which the Company may purchase up to \$5.0 million of its common stock. Purchases under the share repurchase program may be made from time to time, in such amounts as management deems appropriate, through a variety of methods, which may include open market purchases, privately negotiated transactions, block trades, accelerated share repurchase transactions, purchases through 10b5-1 trading plans, or by any combination of such methods. The timing and amount of any repurchases pursuant to the share repurchase program will be determined based upon a variety of factors, including general market conditions, share price, corporate and regulatory requirements and limitations, corporate liquidity requirements and priorities, and other factors. The Company anticipates that any repurchases will not occur before the second half of 2025. The share repurchase program does not have an expiration date, does not require the Company to repurchase any specific number of shares of its common stock, if any, and may be modified, suspended or terminated at any time without notice. During the three and six months ended June 30, 2025, there were no repurchases made under the program.

Stock Options

On January 15, 2024, the Company granted nonqualified stock options to certain directors, executive officers and employees to acquire an aggregate of 1,000,000 shares of the Company's common stock under the 2017 Plan. The options granted are exercisable at \$0.88 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. The options are fully vested and exercisable as of the date of grant and will expire five years thereafter. Based on a Black-Scholes valuation model, these options were valued at \$632,214, in accordance with FASB ASC Topic 718, which was expensed on the issuance date in selling, general and administrative expenses within the Company's consolidated statements of operations. The valuation assumptions included an expected duration of 5 years, volatility of 93%, discount rate of 3.84% and dividends of \$0.

On February 27, 2024, the Company issued 9,285 shares of common stock to a former employee upon a cashless exercise of an option to purchase 18,750 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock, with an exercise price of \$0.27 per share. Such share issuance was based upon a VWAP of \$0.9230 per share as determined under the terms of the option.

On June 24, 2024, the Company issued (i) 886,456 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 1,500,000 shares of common stock at an exercise price of \$0.27 per share, and (ii) 672,867 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of options to purchase an aggregate of 1,600,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.45 per share. Such share issuances were based upon a VWAP of \$0.6601 per share as determined under the terms of the options.

On June 28, 2024, the Company issued (i) 46,409 shares of common stock to an employee upon a cashless exercise of options to purchase an aggregate of 300,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.61 per share, (ii) 44,065 shares of common stock to an employee upon a cashless exercise of an option to purchase 75,000 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock with an exercise price of \$0.27 per share, and (iii) 15,000 shares of common stock to a former employee upon a cashless exercise of an option to purchase 25,531 shares of common stock covered by an option to purchase a total of 500,000 shares of common stock with an exercise price of \$0.27 per share. Such share issuances were based upon a VWAP of \$0.6546 per share as determined under the terms of the options.

On August 3, 2024, the Company issued 32,112 shares of common stock to a former consultant upon a cashless exercise of an option to purchase 62,500 shares of common stock, with an exercise price of \$0.40 per share. Such share issuance was based upon a VWAP of \$0.8227 per share as determined under the terms of the option.

On January 2, 2025, and pursuant to an investor relations consulting agreement effective as of January 1, 2025 with a nonaffiliated third party, the Company granted a nonqualified stock option under the 2017 Plan to such third party to acquire 250,000 shares of the Company's common stock at an exercise price of \$0.51 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. Twenty-five percent of the option shall vest and become exercisable three months following the grant date and twenty-five percent shall vest every three months thereafter such that the option shall be fully vested one year following the grant date. The option will expire three years after the grant date. Based on a Black-Scholes valuation model, these options were valued at \$77,926, in accordance with FASB ASC Topic 718. The fair value of the shares was being amortized to selling, general and administrative expenses within the Company's consolidated statements of operations over twelve months and the Company recorded \$38,216 of expenses during the six months ended June 30, 2025. The valuation assumptions included an expected duration of 3 years, volatility of 87%, discount rate of 4.29% and dividends of \$0.

On January 9, 2025, the Company granted a nonqualified stock option under the 2017 Plan to a new director, who was elected to the Board on December 30, 2024, to acquire 100,000 shares of the Company's common stock at an exercise price of \$0.56 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. The option is fully vested and exercisable as of the grant date and will expire five years thereafter.

Based on a Black-Scholes valuation model, these options were valued at \$40,071, in accordance with FASB ASC Topic 718, which was expensed on the issuance date in selling, general and administrative expenses within the Company's consolidated statements of operations. The valuation assumptions included an expected duration of 5 years, volatility of 92%, discount rate of 4.46% and dividends of \$0.

On June 20, 2025, the Company issued (i) 318,978 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 500,000 shares of common stock at an exercise price of \$0.19 per share, and (ii) 318,978 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 500,000 shares of common stock at an exercise price of \$0.19 per share. Such share issuances were based upon a VWAP of \$0.5248 per share as determined under the terms of the options.

A summary of stock option activity is presented below:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value
December 31, 2024	9,300,000	\$ 0.58	1.75	12,500
Grants	350,000	0.52		
Expirations	(250,000)	0.19		
Exercised	(1,000,000)	0.19		
June 30, 2025	8,400,000	\$ 0.64	1.51	1,114,750
Options exercisable at:				
June 30, 2025	8,212,500	0.64	1.49	1,082,875

The aggregate intrinsic value in the table above represents the total intrinsic value, based on the Company's closing stock price of \$0.68 as of June 30, 2025, which would have been received by the option holders had all option holders exercised their options as of that date.

Stock options exercised during the six months ended June 30, 2025 include none that were exercised for cash and 1,000,000 that were cashless exercises. Stock options exercised during the six months ended June 30, 2024 include none that were exercised for cash and 3,519,281 which were cashless exercises.

Restricted Share Units

On January 15, 2024, the Company granted 50,000 restricted share units ("RSUs") to a director pursuant to the 2017 Plan. The RSUs will vest one year from the date of grant on January 15, 2025. Once vested, each RSU represents the right to receive one share of the Company's common stock. These shares of common stock were valued at \$43,500 in accordance with FASB ASC Topic 718. The fair value of the shares will be amortized as an expense over the vesting period. The shares become fully vested on January 15, 2025. The expense for the six months ended June 30, 2025 and 2024 was \$1,668 and \$19,903, respectively.

On January 15, 2025, the Company issued 50,000 shares of common stock to a director due to the vesting on such date of 50,000 RSUs which had previously been granted on January 15, 2024 pursuant to the 2017 Plan and had a one-year vesting period.

Note 11 - Warrants

The Company utilized a Black-Scholes options pricing model to value warrants at the issuance date. This model requires the input of highly subjective assumptions such as the expected stock price volatility and the expected period until the warrants are exercised. When calculating the value of warrants issued, the Company uses a volatility factor, a risk-free interest rate and the life of the warrant for the exercise period.

There were no warrants outstanding as of December 31, 2024 and June 30, 2025, and no warrants were issued or exercised during the six months ended June 30, 2025 and 2024.

Note 12 – Segment and Geographic Information

The Company's chief operating decision maker ("CODM") is the Chief Executive Officer (the "CEO"). The Company is a provider of specialty activated carbon technologies and, at June 30, 2025, had one operating segment, which entails the provision of specialty activated carbon technologies for air and water purification in the United States.

There are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, management has determined that the Company has a single operating and reportable segment. The accounting policies related to operating and reportable segments are the same as those described in Note 3, "Basis of Presentation and Summary of Significant Accounting Policies". The primary measure of segment profit or loss is consolidated net income as presented below and is used by the CEO for the purpose of evaluating segment performance and allocation of budget to support business expansion, new product development and operational efficiencies.

	For the Three Months Ended June 30, 2025	For the Three Months Ended June 30, 2024	For the Six Months Ended June 30, 2025	For the Six Months Ended June 30, 2024
Material sales	3,244,446	3,302,936	5,921,430	6,387,024
License fees	-	-	525,000	140,625
Other revenues	9,465	58,497	28,492	75,550
Total revenues	\$ 3,253,911	\$ 3,361,433	\$ 6,474,922	\$ 6,603,199
Material costs	(1,728,988)	(1,693,036)	(3,178,145)	(3,225,393)
Blending and milling	(92,747)	(92,915)	(158,125)	(184,624)
Shipping	(275,633)	(295,257)	(481,321)	(523,771)
Other cost of goods sold	(90,041)	(105,516)	(254,651)	(266,222)
Compensation and benefits	(1,378,101)	(3,015,652)	(2,445,257)	(4,253,677)
Stock-based compensation	(19,428)	(136,778)	(79,955)	(906,994)
Amortization and depreciation	(103,664)	(57,835)	(176,129)	(120,159)
Consulting fees	(306,516)	(102,410)	(566,974)	(300,140)
Professional fees	(126,737)	(1,061,299)	(1,022,452)	(2,093,035)
General and administrative	(205,530)	(360,410)	(528,340)	(687,351)
Change in fair value of profit share	(375,697)	(2,689,436)	(729,048)	(2,954,634)
Interest expense	-	(5,817)	(54)	(251,634)
Income tax benefit (expense)	(21,645)	(14,181)	(35,780)	(14,181)
Research and development	(90,637)	-	(90,637)	-
Interest income	19,537	122,195	50,810	176,827
Segment net loss	<u>(1,541,916)</u>	<u>(6,146,914)</u>	<u>(3,221,136)</u>	<u>(9,001,789)</u>
Reconciliation of profit or loss				
Adjustments and reconciling items	-	-	-	-
Consolidated net loss	\$ (1,541,916)	\$ (6,146,914)	\$ (3,221,136)	\$ (9,001,789)

The segment assets are not reviewed by the CODM at a different asset level or category and is reviewed at the consolidated level.

Note 13 - Subsequent Events

Effective as of August 5, 2025, the Company entered into separate agreements with two utilities, which are affiliated with each other, and named as defendants in the Southern District of Iowa action (see "Note 9 – Commitments and Contingencies"). Such agreements provide such parties and their affiliates with a non-exclusive license to certain Company patents related to the Company's two-part Sorbent Enhancement Additive (SEA®) process for use in connection with certain designated coal-fired power plants operated by them. Each agreement includes a one-time license fee which is to be paid within 30 days of signing of the agreement. Such agreements provide the Company with the right to be included in each utility's bidding process for certain product supply for mercury emissions capture at such party's operated power plants. Such lawsuit will continue against the other non-affiliated defendants named in the Southern District of Iowa action.

Shares
Common Stock

BIRCHTECH CORP.



PROSPECTUS

Lake Street

Janney Montgomery Scott

, 2025

Through and including _____, 2025 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of common stock being registered. All amounts are estimates except for the SEC registration fee, NYSE American filing fee and the Financial Industry Regulatory Authority, or FINRA, filing fee.

Item	Amount to be paid
SEC registration fee	\$ * *
NYSE American filing fee	*
FINRA filing fee	*
Printing fees and expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Underwriter's expenses	*
Transfer agent's fees and expenses	*
Miscellaneous fees and expenses	*
Total	\$ * *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the DGCL (“Section 145”) provides in general that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee, or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee, or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit, or proceeding, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who are, were or are a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee, or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests, provided that no indemnification is permitted without judicial approval if the officer, director, employee, or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses which such officer or director has actually and reasonably incurred.

Section 145 further authorizes a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee, or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation or enterprise, against any liability asserted against him and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the corporation would otherwise have the power to indemnify him under Section 145.

Our bylaws provide that we must indemnify our directors and officers to the fullest extent permitted by the DGCL and must indemnify against all expenses, liability, and loss incurred in investigating, defending, or participating in such proceedings.

The Company maintains standard policies of insurance that provide coverage (1) to the Company's directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act and (2) to the Company with respect to indemnification payments that the Company may make to such directors and officers.

As of the date of the effectiveness of this registration statement, we have entered into separate indemnification agreements with each of our directors and executive officers. Each indemnification agreement provides, among other things, for indemnification to the fullest extent permitted by law and our bylaws against any and all expenses, judgments, fines, penalties, and amounts paid in settlement of any claim. The indemnification agreements provide for the advancement or payment of all expenses to the indemnitee.

Item 15. Recent Sales of Unregistered Securities

On February 2, 2022, the Company issued 5,181 shares of common stock to a certain option holder upon the cashless exercise of options to purchase an aggregate of 9,750 shares of common stock at exercise prices ranging from \$0.20 to \$0.33 per share based upon a market price of \$0.54 per share as determined under the terms of the options.

On May 31, 2022, and pursuant to a consulting agreement dated May 31, 2022 with a nonaffiliated third party, the Company issued 500,000 shares of common stock to such party as part of its compensation thereunder. These shares of common stock were valued at \$160,000.

On May 31, 2022, the Company issued a total of 250,000 shares of common stock to two Directors. These shares of common stock were valued at \$55,000.

On May 31, 2022, the Company issued a total of 3,000,000 shares of common stock to the Chief Executive Officer. These shares of common stock were valued at \$960,000.

On November 8, 2022, the Company issued a total of 3,000,000 shares of common stock to the Chief Executive Officer. These shares of common stock were valued at \$960,000. The shares became fully vested on November 8, 2024.

On February 1, 2023, the Company issued (i) 850,000 shares of common stock to Christopher Greenberg, the former Chairman of our Board of Directors, upon a cash exercise of options to purchase an aggregate of 850,000 shares of common stock at exercise prices ranging from \$0.19 to \$0.27 per share or \$209,500 in the aggregate, (ii) 110,000 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 250,000 shares of common stock at an exercise price of \$0.28 per share based upon a market price of \$0.50 per share as determined under the terms of the option, and (iii) 155,000 shares of common stock to a director of the Company upon a cashless exercise of an option to purchase 250,000 shares of common stock at an exercise price of \$0.19 per share based upon a market price of \$0.50 per share as determined under the terms of the option.

On February 20, 2023, the Company issued 17,858 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 50,000 shares of common stock at an exercise price of \$0.27 per share based upon a market price of \$0.42 per share as determined under the terms of the option.

Between February 21, 2023 and February 23, 2023, the Company issued an aggregate of 29,022 shares of common stock to three employees and one former employee upon a cashless exercise of options to purchase an aggregate of 80,000 shares of common stock at an exercise price of \$0.27 per share based upon market prices ranging from \$0.42 to \$0.43 per share as determined under the terms of the options.

On June 5, 2023, the Company issued 1,629 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 6,875 shares of common stock at an exercise price of \$0.29 per share based upon a market price of \$0.38 per share as determined under the terms of the option.

On June 6, 2023, the Company issued an aggregate of 3,426 shares of common stock to an employee upon a cashless exercise of options to purchase an aggregate of 7,655 shares of common stock at exercise prices ranging from \$0.17 to \$0.29 per share based upon a market price of \$0.38 per share as determined under the terms of the options.

On June 7, 2023, the Company issued 1,352 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.29 per share based upon a market price of \$0.37 per share as determined under the terms of the option.

On June 28, 2023, the Company issued (i) 5,213 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of options to purchase an aggregate of 24,687 shares of common stock at exercise prices ranging from \$0.21 to \$0.29 per share based upon a market price of \$0.30 per share as determined under the terms of the options, (ii) 4,125 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock at an exercise price of \$0.21 per share based upon a market price of \$0.30 per share as determined under the terms of the option, and (iii) 1,875 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.21 per share based upon a market price of \$0.30 per share as determined under the terms of the option.

On July 28, 2023, the Company issued (i) 8,007 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 6,690 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (iii) 3,041 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of \$0.17 per share and such share issuances were based upon a volume weighted average price ("VWAP") of \$0.3311 per share as determined under the terms of the options.

On September 29, 2023, the Company issued (i) 5,555 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 4,641 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, (iii) 2,109 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock, and (iv) 1,033 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock. All of such options had an exercise price of \$0.26 per share and such share issuances were based upon a VWAP of \$0.3925 per share as determined under the terms of the options.

On October 30, 2023, the Company issued 1,450 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at any exercise price of \$0.20 per share based upon a VWAP of \$0.3799 per share as determined under the term of the options.

On October 31, 2023, the Company issued (i) 8,346 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 16,458 shares of common stock, (ii) 6,973 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (iii) 3,169 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of \$0.20 per share and such share issuances were based upon a VWAP of \$0.4058 per share as determined under the terms of the options.

On November 29, 2023, the Company issued 2,001 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at an exercise price of \$0.33 per share based upon a VWAP of \$0.9527 per share as determined under the term of the options.

On November 30, 2023, the Company issued (i) 9,104 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock at an exercise price of \$0.33 per share, (ii) 4,138 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock at an exercise price of \$0.33 per share, and (iii) 9,400 shares of common stock to a former employee upon a cashless exercise of options to purchase a total of 18,750 shares of common stock, with exercises prices of ranging from \$0.25 to \$0.33 per share. All of such share issuances were based upon a VWAP of \$0.9768 per share as determined under the terms of the options.

On December 11, 2023, the Company issued (i) 10,278 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 13,750 shares of common stock, and (ii) 4,672 shares of common stock to a director upon a cashless exercise of an option to purchase 6,250 shares of common stock. All of such options had an exercise price of 0.25 per share and such share issuances were based upon a VWAP of \$0.9902 per share as determined under the terms of the options.

On December 13, 2023, the Company issued 2,204 shares of common stock to an employee upon a cashless exercise of an option to purchase 3,062 shares of common stock at an exercise price of \$0.25 per share based upon a VWAP of \$0.8931 per share as determined under the term of the options.

On January 15, 2024, the Company granted nonqualified stock options to certain directors, executive officers and employees to acquire an aggregate of 1,000,000 shares of the Company's common stock under the 2017 Plan. The options granted are exercisable at \$0.88 per share, representing the fair market value of the common stock on the date of grant as determined under the 2017 Plan. The options are fully vested and exercisable as of the date of grant and will expire five years thereafter. Based on a Black-Scholes valuation model, these options were valued at \$632,214.

On February 27, 2024, the Company issued 9,285 shares of common stock to a former employee upon a cashless exercise of an option to purchase 18,750 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock, with an exercise price of \$0.27 per share. Such share issuance was based upon a VWAP of \$0.9230 per share as determined under the terms of the option.

On June 17, 2024, the Company issued an aggregate of 16,665 shares of common stock to certain warrant holders upon the cashless exercise of warrants to purchase an aggregate of 600,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.72 per share as determined under the terms of the warrants.

On June 18, 2024, the Company issued 3,521 shares of common stock to a certain warrant holder upon the cashless exercise of a warrant to purchase 250,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.71 per share as determined under the terms of the warrant.

On June 24, 2024, the Company issued (i) 886,456 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 1,500,000 shares of common stock at an exercise price of \$0.27 per share, and (ii) 672,867 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of options to purchase an aggregate of 1,600,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.45 per share. Such share issuances were based upon a VWAP of \$0.6601 per share as determined under the terms of the options.

On June 28, 2024, the Company issued (i) 46,409 shares of common stock to an employee upon a cashless exercise of options to purchase an aggregate of 300,000 shares of common stock at exercise prices ranging from \$0.27 to \$0.61 per share, (ii) 44,065 shares of common stock to an employee upon a cashless exercise of an option to purchase 75,000 shares of common stock covered by an option to purchase a total of 100,000 shares of common stock with an exercise price of \$0.27 per share, and (iii) 15,000 shares of common stock to a former employee upon a cashless exercise of an option to purchase 25,531 shares of common stock covered by an option to purchase a total of 500,000 shares of common stock with an exercise price of \$0.27 per share. Such share issuances were based upon a VWAP of \$0.6546 per share as determined under the terms of the options.

On August 3, 2024, the Company issued 32,112 shares of common stock to a former consultant upon a cashless exercise of an option to purchase 62,500 shares of common stock, with an exercise price of \$0.40 per share. Such share issuance was based upon a VWAP of \$0.8227 per share as determined under the terms of the option.

On August 5, 2024, the Company issued 66,666 shares of common stock to a certain warrant holder upon the cashless exercise of a warrant to purchase 400,000 shares of common stock at an exercise price of \$0.70 per share based upon a market value of \$0.84 per share as determined under the terms of the warrant.

On August 22, 2024, the Company issued 25,000 shares of common stock to a certain warrant holder upon a cash exercise of a warrant to purchase 25,000 shares of common stock at an exercise price of \$0.70 per share or \$17,500 in the aggregate.

On January 15, 2025, the Company issued 50,000 shares of common stock to a director due to the vesting on such date of 50,000 RSUs which had previously been granted on January 15, 2024 and had a one-year vesting period.

On June 20, 2025, the Company issued (i) 318,978 shares of common stock to the Company's Chief Executive Officer upon a cashless exercise of an option to purchase 500,000 shares of common stock at an exercise price of \$0.19 per share, and (ii) 318,978 shares of common stock to the Company's Senior Vice President and Chief Technology Officer upon a cashless exercise of an option to purchase 500,000 shares of common stock at an exercise price of \$0.19 per share. Such share issuances were based upon a VWAP of \$0.5248 per share as determined under the terms of the options.

The foregoing securities were issued in reliance upon the exemption from registration pursuant to Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder, and where applicable, under Section 3(a)(9) of the Securities Act.

Item 16. Exhibits and financial statement schedules

(a) Exhibits

Exhibit	Description
1.1*	Form of Underwriting Agreement
3.1	Certificate of Incorporation and amendments thereto through October 17, 2024 (Incorporated by reference to Exhibit 3.1 of the Company's Annual Report on Form 10-K, filed with the Commission on March 20, 2015)
3.2	Certificate of Amendment filed with the Secretary of State of Delaware effective on October 17, 2024 (Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K, filed with the Commission on October 17, 2024)
3.3	Second Amended and Restated By-laws (Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K, filed with the Commission on November 15, 2024)
5.1*	Opinion of Sheppard, Mullin, Richter & Hampton LLP
10.1	Closing Agreement by and among Midwest Energy Emissions Corp., MES, Inc. and Energy & Environmental Research Center Foundation effective as of April 21, 2017 (Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q, filed with the Commission on August 21, 2017)
10.2	Assignment of Patents by and between Energy & Environmental Research Center Foundation and Midwest Energy Emissions Corp. dated April 24, 2017 (Incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q, filed with the Commission on August 21, 2017)
10.3	Amended and Restated Employment Agreement with Richard MacPherson dated as of June 7, 2024 (Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the Commission on June 13, 2024)

<u>10.4</u>	<u>Amended and Restated Employment Agreement with John Pavlish dated as of June 7, 2024 (Incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the Commission on June 13, 2024)</u>
<u>10.5</u>	<u>Employment Agreement with James Trettel dated as of June 7, 2024 (Incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K, filed with the Commission on June 13, 2024)</u>
<u>10.6</u>	<u>License and Supply Agreement with Dakin Holdings Ltd. dated as of January 31, 2023 (Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the Commission on February 3, 2023)</u>
<u>10.7</u>	<u>First Amendment to License and Supply Agreement with Dakin Holdings Ltd. dated as of November 18, 2024 (Incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-K, filed with the Commission on March 31, 2025)</u>
<u>10.8</u>	<u>Amended and Restated 2014 Equity Incentive Plan, as amended October 29, 2024 (Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the Commission on November 15, 2024)</u>
<u>10.9</u>	<u>Amended and Restated 2017 Equity Incentive Plan, as amended October 29, 2024 (Incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K, filed with the Commission on November 15, 2024)</u>
<u>10.10</u>	<u>Form of Option Award Agreement (Amended and Restated 2017 Equity Incentive Plan) (Incorporated by reference to Exhibit 10.10 of the Company's Annual Report on Form 10-K, filed with the Commission on March 31, 2025)</u>
<u>10.11</u>	<u>Form of Restricted Share Unit Award Agreement (Amended and Restated 2017 Equity Incentive Plan) (Incorporated by reference to Exhibit 10.11 of the Company's Annual Report on Form 10-K, filed with the Commission on March 31, 2025)</u>
<u>10.12</u>	<u>Unsecured Debt Restructuring Agreement among Midwest Energy Emissions Corp., MES, Inc. and AC Midwest Energy LLC dated as of February 27, 2024 (Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the Commission on March 4, 2024)</u>
<u>21.1</u>	<u>Subsidiaries of the registrant (Incorporated by reference to Exhibit 21.1 of the Company's Annual Report on Form 10-K, filed with the Commission on March 31, 2025)</u>
<u>23.1*</u>	Consent of Rosenberg Rich Baker Berman, P.A.
<u>23.2*</u>	Consent of Sheppard, Mullin, Richter & Hampton LLP (included in Exhibit 5.1)
<u>24.1</u>	Power of Attorney (included on the signature page to this registration statement)
<u>107*</u>	Filing Fee Table

* To be filed by amendment

Item 17. Undertakings

The undersigned registrant hereby undertakes:

1. To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (i), (ii) and (iii) do not apply if the registration statement is on Form S-1 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

2. For the purposes of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

4. For the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

5. For the purposes of determining liability under the Securities Act of 1933 to any purchaser in the initial distributions of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

6. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by a Registrant of expenses incurred or paid by a director, officer or controlling person of a Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, that Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

7. For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

8. For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

9. For purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in Corsicana, Texas, on , 2025.

Birchtech Corp.

By:

Name: Richard MacPherson

Title: President, Chief Executive Officer, Secretary and Chairman (Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Richard MacPherson his/her true and lawful attorney-in-fact and agent with full power of substitution and re-substitution, for him/her and in his name, place and stead, in any and all capacities to sign any or all amendments (including, without limitation, post-effective amendments) to this Registration Statement, any related Registration Statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and any or all pre- or post-effective amendments thereto, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or substitutes for him, may lawfully do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>Richard MacPherson</u>	President, Chief Executive Officer, Secretary, and Chairman (Principal Executive Officer)	, 2025
<u>Fiona Fitzmaurice</u>	Chief Financial Officer (Principal Financial and Accounting Officer)	, 2025
<u>David M. Kaye</u>	Director	, 2025
<u>Troy Grant</u>	Director	, 2025
<u>Mitzi H. Coogler</u>	Director	, 2025