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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of November 2023

Commission File Number: **001-39989**

PYROGENESIS CANADA INC.
(Translation of registrant's name into English)

1744, William St. Suite 200
Montreal, QC, H3J1R4
Canada
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F [ ]   Form 40-F [X]

EXHIBIT INDEX

Exhibit Number	Description
99.1	Press Release dated November 9, 2023
99.2	Condensed Consolidated Interim Financial Statements Three and Nine-Month Period ended September 30, 2023 and 2022
99.3	Management's Discussion and Analysis
99.4	Form 52-109F2 CEO Certification of Interim Filings
99.5	Form 52-109F2 CFO Certification of Interim Filings

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PYROGENESIS CANADA INC.
(Registrant)

Date: November 9, 2023

/s/ P. Peter Pascali
P. Peter Pascali
Chief Executive Officer

EXHIBIT 99.1

PyroGenesis Announces 2023 Third Quarter Results

MONTREAL, Nov. 09, 2023 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (http://pyrogenesis.com) (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY), a high-tech company (the “Company” or “PyroGenesis”), that designs, develops, manufactures and commercializes advanced plasma processes and sustainable solutions which are geared to reduce greenhouse gases (GHG), is pleased to announce today its financial and operational results for the third quarter ended September 30th , 2023.

"We are seeing improvements across industrial supply chains and customer bottlenecks, resulting in two straight quarters of growth coming off of the three-year quarterly low we saw in Q1 of this year," said Mr. P. Peter Pascali, CEO and President of PyroGenesis. “While we can’t guarantee that these early signs of sector-wide recovery will continue at the same pace, our quarterly revenues are steadily increasing from the early year low. Combined with renewed strong demand in traditionally slower business lines such as waste destruction where we have signed contracts for six separate projects so far this year, and the increasing interest in plasma torch applications of 2MW power and higher, we have confidence around continued momentum.”

“PyroGenesis is competing hard while closely scrutinizing both potential and existing projects to ensure that the utilization of our labour and financial resources are optimized. As we have shown in the past, we will only engage in projects if the short or long-term potential benefit to PyroGenesis is significant and well-understood. We continue to intensify our focus on project and budgetary clarity during this persistent period of elevated global inflationary pressures. As always, we maintain our emphasis on developing low carbon-footprint technology solutions that we believe will take hold with leading global industrial companies during a period of major paradigm shift, namely in Energy Transition & Emissions Reduction, Commodity Security & Optimization, and Waste Remediation,” added Mr. Pascali.

PyroGenesis Canada Inc reports in Canadian dollar and in accordance with IFRS
Key Q3 Financial Highlights

- New project sales of over $6.5 million
- Backlog of signed and/or awarded contracts of $35 million as at November 9, 2023
- Revenue of $3.7 million
  - up 21% from Q2 2023 and up 42% from Q1 2023
  - down 35% year-over-year
- Margin of 30%
- EPS loss of $ 0.03

Outlook and Recent Developments

Q3 Production Highlights

The information below represents highlights from the past quarter for each of the company’s main business verticals, followed by an outline of the Company’s strategy, and key developments that will impact the subsequent quarters.

In Q3 2023, PyroGenesis continued its focus on advancing its updated business strategy that was first outlined in the Company’s 2022 fourth quarter and year-end results.

As noted, as the variety of uses for the Company’s core technologies has expanded, and industry interest has increased, the Company is concentrating its activities under three ecosystem-solution that align with economic drivers that are key to global heavy industry:

1. *Energy Transition & Emission Reduction:*

- fuel switching, utilizing the Company’s electric-powered plasma torches and biogas upgrading technology to help heavy industry reduce fossil fuel use and greenhouse gas emissions,

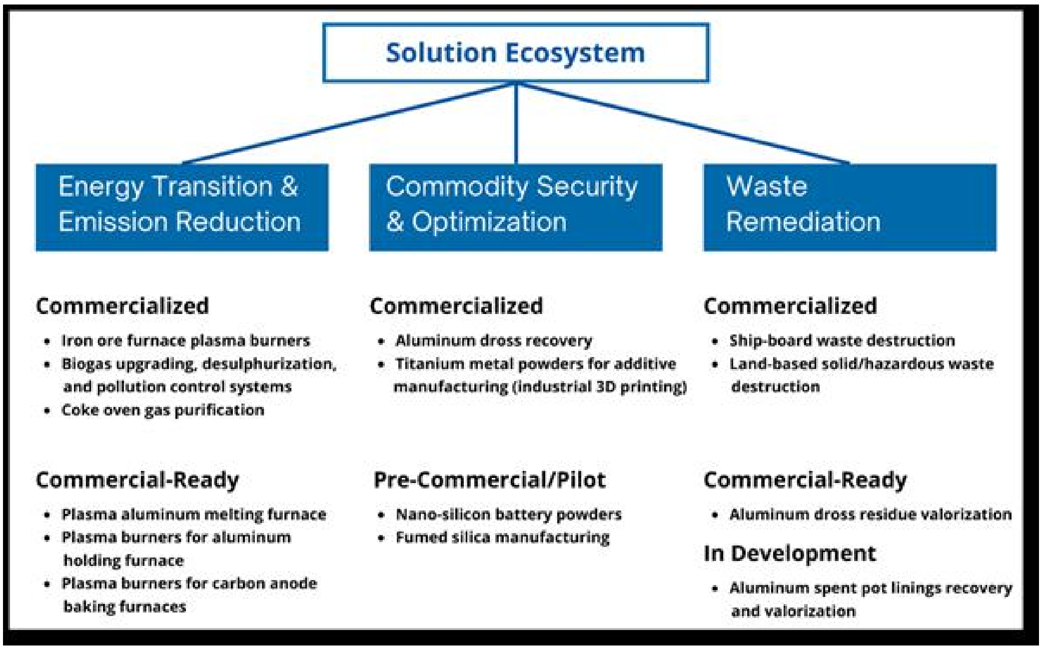
2. *Commodity Security & Optimization:*

- recovery of viable metals, and optimization of production methods/processes geared to increase output, maximize raw materials and improve availability of critical minerals,

3. *Waste Remediation:*

- safe destruction of hazardous materials, and the recovery and valorization of underlying substances such as chemicals and minerals.

Within each vertical the Company offers several solutions at different stages of commercialization.



1. *Energy Transition & Emission Reduction*

- **In August**, the Company announced a contract (Press Release dated August 1, 2023) for $4.13 million for a 4.5MW plasma torch system, with an aeronautics and defense industry client who is a prime contractor for the U.S. government and who has extensive experience as an innovation hub, providing technology and test services to solve critical defense, military, and aeronautics challenges.

2. *Commodity Security & Optimization*

- In September, the Company announced receipt of an order from a global aerospace firm (Press Release dated September 19, 2023) for the Company's coarse cut titanium metal powder, produced by the Company's NexGen™ plasma atomization system, which are designed for use in industrial 3D printing and additive manufacturing. The Client is a large global aerospace original equipment manufacturer (OEM) in the United States, and is the one that the Company is undergoing a qualification process; this new order is unrelated to that process, and is intended for a separate use in the Client's research and development programs.

  As stated at the time by Mr. P. Peter Pascali, CEO and President of PyroGenesis of the announcement, *"The significance of this order is the particle size distribution (PSD) that has been requested. The PSD for this order is for our coarse cut titanium powder, in this case for powder between 45-150µm (microns), which we have been producing over the past year as we build our stock inventory. This contract recognizes what we believe is the superior overall quality of our powder and establishes a market for a larger percentage of our powder output, thereby improving our overall returns substantially."*

  In certain traditional metal powder production processes, as the powder is created then filtered and separated into different cut sizes, the fine cut powder is removed for sale, with the remaining coarsest cut often considered of limited use, or even discarded as unsuitable. However, with PyroGenesis Additive's NexGen™ plasma atomization system, the coarsest cut component of the production batch remains of such a high quality, that the inventory of these powders is stored for future sales. Furthermore, we are currently in discussions with various potential clients who have expressed interest in the coarse cut powder. By selling both the fine and coarse cut of each powder production run, the Company's yield percentage from raw material is greatly enhanced, which is in line with the Company's broader mandate for commodity security and optimization.

3. *Waste Remediation*

- In September, the Company announced receipt of a $2.25 million plasma torch contract (Press Release dated September 12, 2023) from a U.S. corporation geared to destroy perfluoroalkyl and polyfluoroalkyl substances ("PFAS") on behalf of a large operator of public water systems.

  PyroGenesis had previously announced its involvement (Press Release dated October 28, 2021) in this very same project before subsequently suspending and discontinuing discussions (Press Release dated October 7, 2022) as, at the time, the project did not align with the minimum requirements of the Company's global strategy. However, as a result of renewed interest from the project principles, and upon developing a different approach, the Client re-engaged with PyroGenesis and as such PyroGenesis will now supply a plasma torch system as a key destruction component of the overall solution build.

  PFAS are man-made chemicals – often referred to as "forever chemicals" – that have been widely used in consumer products in various industries, such as aerospace, automotive, construction, amongst others, for many decades. Products that may contain PFAS include non-stick cookware, stain resistant coatings used on carpets, upholstery, and other fabrics, water resistant clothing, cleaning products, personal care and cosmetics products and any other product that resist grease, water and oil. Due to their widespread use and strong chemical bonds and properties, which account for their persistence in the environment, PFAS are proving to be persistent pollutants that affect humans and wildlife, as they are likely to be exposed to these chemicals by consuming contaminated water or food, using products made with PFAS, or breathing air containing PFAS.

Q3 Financial Highlights

- In July, the Company announced amendment of a potential $5 million brokered private placement of convertible debenture units (Press Release dated July 10, 2023) originally announced in June of Q1 (Press Release dated June 22, 2023), including participation by the CEO; the placement closed in July (Press Release dated July 21, 2023), with aggregate gross proceeds of $3,030,000.
- In August, the Company confirmed receipt (Press Release dated August 22, 2023) of the down payment of $826,000 associated with the $4.1 million contract for a 4.5MW high power plasma torch system (Press Release dated August 1, 2023).
- In August, the Company confirmed receipt (Press Release dated August 24, 2023) a milestone payment of $445,200 associated with the engineering phase for its SPARC™ refrigerant waste destruction system from the government-mandated organization known as Cool-Safe, which previously ordered the $6 million system from PyroGenesis in Q1 of 2023 (Press Release dated January 10, 2023).

Overall Strategy

PyroGenesis provides technology solutions to heavy industry that leverage off of the Company's expertise in ultra-high temperature processes. The Company has evolved from its early beginnings of being a specialty-engineering firm to being a provider of a robust technology eco-system for heavy industry that helps address key strategic goals.

The Company believes its strategy to be quite timely, as multiple heavy industries are committing to major carbon and waste reduction programs at the same time as many governments are increasingly funding environmental technologies and infrastructure projects – all the while both are making it a strategy to ensure the availability of critical minerals during the coming decades of increased output demand.

While there can be no guarantees, the Company believes the evolution of its strategy beyond greenhouse gas emission reduction, to an expanded focus that encapsulates the key verticals listed in the section "Q3 Production Highlights", both (i) improves the Company's chances for success while (ii) also providing a clearer picture of how the Company's wide array of offerings work in tandem to support heavy industry goals.

PyroGenesis' market opportunity is significant, as major industries such as aluminum, steelmaking, manufacturing, defense, aeronautics, and government require factory-ready, technology-based solutions to help steer through the paradoxical landscape of increasing demand and tightening regulations and material availability.

As more of the Company's offerings reach full commercialization, PyroGenesis will remain focused on attracting influential customers in broad markets while at the same time ensuring that operating expenses are controlled to achieve profitable growth.

For the remainder of 2023, we will continue to sharpen our focus on our strategy that structures our solution ecosystem under the three verticals noted previously: (i) energy transition & emission reduction, (ii) commodity security & optimization, and (iii) waste remediation.

Cost Controls and Efficiencies

PyroGenesis is competing hard while closely scrutinizing both potential and existing projects to ensure that the utilization of our labour and financial resources are optimized. As we have shown in the past, we will only engage in projects if the potential benefits to PyroGenesis is significant and well-understood. We continue to intensify our focus on project and budgetary clarity during this persistent period of elevated global inflationary pressures, by sourcing alternative suppliers and constantly adjusting project resources. We have also refined our early-stage project assessment process to allow for faster "go / no-go" decisions on project viability.

Enhanced Sales and Marketing

Against the backdrop of this 3-tiered strategy, the Company has been increasing sales, marketing, and R&D efforts in-line with – and in some cases ahead of – the growth curve for industrial change related to greenhouse gas reduction efforts.

In September, the Company was featured as a cover story in Powder Metallurgy Review, a premier business magazine serving the additive manufacturing and metals industries. The multi-page article detailed PyroGenesis Additive's journey to becoming a player in the titanium metal powder production market with its new NexGen production technology.

During the quarter, the Company proudly participated in both the "5th Symposium on Iron Ore Pelletizing" in Quebec City, and also in the Côte-Nord tour organized by AluQuébec - Grappe industrielle de l'aluminium du Québec. The latter of the two events was an invitation-only event which gathered over 25 partners and equipment manufacturers from various industry sectors.

Business Line Developments

The upcoming milestones which are expected to confirm the validity of our strategies are outlined below (please note that these timelines are estimates based on information provided to use by the Clients/Potential Clients, and while we do our best to be accurate, timelines can and will shift, due to protracted negotiations, client technical and resource challenges, or other unexpected situations beyond our or the Clients' control):

Business Line Developments: Near Term (0 – 3 months)

1. Energy Transition & Emission Reduction

<u>New Industry Contract for Plasma Torches:</u> The Company is currently negotiating a large first-phase contract in excess of $10 million that would signal PyroGenesis' resumption of work in an industry that previously showed promise. This industry, which shall remain confidential at present, has previously heralded the potential use of plasma torches in conducting its primary objective, due to the

increased speed and other advanced criteria at which the projects could be completed by using plasma torches vs traditional approaches. While there is no guarantee this contract will be signed, if successful the Company foresees the potential for a multi-phase, multi-year partnership with the client that may result in many additional plasma torch orders over the next few years.

Iron Ore Pelletization Torch Trials: as mentioned in the Q1 outlook on May 15, in April 2023, the commissioning of the plasma torch systems, for use in Client B's pelletization furnaces, was underway, with the Company's engineers onsite at the Client's iron ore facility. The commissioning process includes installation, start-up, and site acceptance testing (SAT). The Company previously announced that it had shipped four 1 MW plasma torch systems for use in Client B's iron ore pelletization furnaces, for trials toward potentially replacing fossil-fuel burners with plasma torches in the Client's furnaces.

As mentioned in Q2 Outlook, this project continues to move forward, however the commissioning suffered a series of delays, due to damaging regional torrential rainstorms and flooding that damaged the facility's electrical system and furnace components. Repairs have been ongoing. The Company's plasma torches have been installed and activated, and the final commissioning and site acceptance testing has resumed, with expectation for final SAT completion within the next few weeks.

The Client has informed us that they continued to experience technical challenges of their own at different stages during Q3, and the site acceptance testing (SAT) was not completed as expected during the quarter. While this is understandably frustrating, the project is not in any jeopardy, and the Client remains committed to the trials.

As of this date, November 9, the Client B has indicated that they were continuing to move forward in resolving their own technical and supply chain issues. Client B is confident that the issues are minor comparatively, and that the acceptance testing, and full trials will be back on track once certain components on backorder are received. Although the timeframe is uncertain, it is expected to be achieved before the end of the year.

Client A, a large international mining company who has also purchased a full plasma torch system for use in trials in their pelletization furnaces, has recently informed the Company that they continue their plasma torch initiative at their own pace.

2. Commodity Security & Optimization

Product Qualification Process for Global Aerospace Firm: Based on information flow between the Company and the aerospace client previously announced, the Company believes that the 2-year long qualification process to approve the Company's titanium metal powers for use by a global aerospace firm and their suppliers, will conclude in the near term.

Of note, the Company can confirm that the qualification process also now includes PyroGenesis' "coarse cut" titanium metal powder, in addition to the "fine cut" titanium metal powder that has been previously discussed as part of the qualification process.

3. Waste Remediation

Post-Quarter End: In October, the Company announced a contract for $360,000 (Press Release dated October 24, 2023) for a lab-scale size version of the Company's plasma arc chemical warfare agent destruction system (known as "PACWADS") from a European engineering services firm undertaking the discovery and safe destruction of chemical warfare agents within the European Union.

The first phase lab-scale order, part of a potential three-phase project, is in relation to a multi-partner project aimed at identifying, extracting, and disposing of chemical munitions and chemical warfare agents residing in active marine passageways and corridors. The second phase will consist of testing the PACWADs system to validate its efficiency, performance and capacity. The eventual goal is to develop a full-scale system once results from the lab-scale system are reviewed.

Potential PAWDS Order: The Company is in initial negotiations with a company that conducts cleanup and destruction of waste from seawater. They have also indicated interest in doing the same on land in remote locations. Negotiations for a PyroGenesis Plasma Arc Waste Destruction System (PAWDS), similar to the type the Company designed and built for some of the U.S. Navy aircraft carriers, are in early stage. While there is no guarantee this contract is completed, if successful the Company may be contracted for multiple PAWDS systems over time.

Financial

Payments for Outstanding Major Receivables: The Company remains in continuous discussions with Radian Oil and Gas Services Company regarding the outstanding receivable of approximately US$8.0 million under the Company's existing $25 million+ Drosrite™ contract. As previously announced, PyroGenesis agreed to a strategic extension of the payment plan, by the customer and its end-customer, geared to better align the pressures on the end-user's operating cash flows created by increased business opportunities.

These discussions are positive, both in regard to the ongoing payment plan, and in regards to a potential new order of additional Drosrite™ systems, as the client's cash flow situation and their new business opportunities move closer to resolution.

Innovation Grants: as mentioned in the Q1 outlook on May 15 and Q2 outlook on August 10, the Company has applied for grants tailored to technology innovation and/or carbon reduction and expects to have results regarding these applications. While the results are ultimately positive for the Company, the Company is still awaiting formal government announcement of the grants before it is legally allowed to indicate specifics. These grants are in the order of $1-2 million.

Business Line Developments: Mid Term (3 – 6 months)

1. Aluminum Remelting Furnaces:

As mentioned in the Q2 Outlook for Q3, the Company has been working on the development of aluminum remelting furnace solutions using plasma, for use by secondary aluminum producers or any manufacturer of aluminum components that uses recycled or scrap aluminum.

With gas-fired furnaces responsible for much of the scope 1 emissions of secondary aluminum production, aluminum companies have been searching for solutions that can help in the decarbonization efforts of aluminum remelting and cast houses.

The Company has two concepts: the retro-fitting of plasma torches in existing remelting and cast house furnaces that currently use other forms of heating, such as natural gas; and the manufacturing and sale of a PyroGenesis produced furnace based off the Company's existing Drosrite metal recovery furnace design, which has been in use commercially for several years.

Also as mentioned in the Q2 Outlook, the Company has been working with a number of different companies over the past few years towards these goals. The results from the conclusion of recent major tests, conducted in conjunction with these companies, have been very positive, and negotiations are underway for next step deployments and sales, with announcements forthcoming. These negotiations continue, though we now anticipate this being a Q1 2024 initiative, if announced.

2. Fumed Silica Reactor ("FSR") Project:

Fumed Silica (also known as Pyrogenic Silica) is a particle-size food-safe additive with a large surface area, used worldwide as a thickening agent in thousands of products such as milkshakes, adhesives, powdered foods, paints, inks, cosmetics, and beverages, to increase strength, viscosity, and flow control.

PyroGenesis, on behalf of its client HPQ Silicon Inc., developed the Fumed Silica Reactor, a plasma-based process that creates fumed silica from quartz in a single and eco-friendly step. By eliminating the use of harmful chemicals generated by conventional fumed silica production methods, the groundbreaking FSR approach, if successful, will help contribute to the repatriation of silica production to North America while lowering the CO2 emissions and carbon footprint of the process.

In a major step towards commercial-scale production, PyroGenesis has successfully deployed (news release dated Oct 3, 2023) the FSR on a laboratory scale to produce fumed silica. A subsequent independent analysis (news release dated Nov 9, 2023) of the material conducted by McGill University confirmed the commercial-quality and thickening efficiency of the fumed silica produced by the FSR.

Next step is to build and launch a pilot plant in Q2 2024 for pre-commercial sample batch production.

In addition to being the engineering services provider and developer of the forthcoming pilot plant, PyroGenesis owns a 10% royalty of client HPQ's eventual fumed silica sales, with set minimums. This royalty stream, can, at any time, be converted by PyroGenesis into a 50% ownership in HPQ Silica Polvere Inc., the wholly owned subsidiary of HPQ Silicon that controls the fumed silica initiative and rights.

Please note that projects or potential projects previously announced that do not appear in the above summary updates should not be considered as at risk. Noteworthy developments can occur at any time based on project stages, and the information presented above is a reflection of information on hand. Projects not mentioned have simply not concluded or not passed milestones worthy of discussion.

Status as a Dual-Listed Publicly Traded Company

As part of the Company's proactive risk management strategy, the Company announced in its Q2 news release (Press Release dated August 10, 2023) that it was evaluating the costs and benefits of maintaining a dual listing on both Nasdaq and the TSX. That ongoing evaluation entailed an analysis of several key factors, including (i) the financial costs associated with being on each exchange, such as insurance costs, regulatory compliance costs, legal fees, and accounting fees, (ii) the volume of trading on both exchanges, and (iii) the regulatory and compliance requirements of each exchange.

As stated at the time, costs to PyroGenesis associated to its dual listing in the US are considerable, with incremental US-specific fees related to directors & officer insurance, legal, listing and filings, and accounting, of more than $2.2 million, which would require approximately $6-8 million in revenues.

Post quarter end, on October 27, 2023, after careful consideration, the Board of Director's decided and the Company announced it would be voluntarily delisting from the Nasdaq exchange. This decision would not affect its listing in Canada, and the Company would remain listed on the Toronto Stock exchange. In addition, the Company has taken steps to have its Shares quoted on the OTCQX Best Market.

The Company has initiated the Nasdaq delisting process and has filed a Form 25 with the SEC for the removal of its Shares from Nasdaq's listing. This Form is anticipated to become effective 10 days following its filling, resulting in the delisting of the Company's Shares from Nasdaq on or about November 16, 2023.

Administrative Proceedings

As previously announced by the Company (see Press Release dated August 31, 2023), in August 2023, the Autorité des marchés financiers (the "AMF") initiated administrative proceedings against Mr. P. Peter Pascali, President and CEO, Mr. Alan Curleigh, Chair of the Board of Directors, and the Company with the Tribunal administratif des marchés financiers. The allegations largely relate to a series of connected transactions that occurred in 2018. The administrative penalty sought by the AMF and attributable to the Company is $550,000. The Company remains of the view that the AMF's allegations are without merit and, like Mr. Pascali and Mr. Curleigh, the Company looks forward to having the opportunity to defend itself, and be vindicated, before the tribunal.

Financial Summary

1. Revenues

PyroGenesis recorded revenue of $3.7 million in the third quarter of 2023 (“Q3, 2023”), representing a decrease of $2.0 million compared with $5.7 million recorded in the third quarter of 2022 (“Q3, 2022”). Revenue for the nine-month period ended September 30, 2023, was $9.3 million, a decrease of $6.4 million over revenue of $15.7 million compared to the same period in 2022.

Revenues recorded in Q3 2023 were generated primarily from:

- PUREVAP™ related sales of $415,415 (2022 Q3 - $4,243,138)
- DROSRITE™ related sales of $118,745 (2022 Q3 - $71,431)
- Development and support services related to systems supplied to the US Navy $1,003,592 (2022 Q3 - $420,809)
- Torch related sales of $950,290 (2022 Q3 - $684,997)
- Refrigerant destruction (SPARC™) related sales of $104,784 (2022 Q3 – $0)
- Biogas upgrading & pollution controls of $768,396 (2022 Q3 - $89,698)
- Other sales and services $324,503 (2022 Q3 - $147,710)

Q3, 2023 revenues decreased by $2.0 million in comparison to Q3, 2022, mainly as a result of:

- PUREVAP™ related sales decreased by $3.9 million due to the completion of the project, with the Company announcing the successful silicon “pour” validating all critical milestones and with this achievement, the stage is set for discussions in transitioning to commercial production and due to the one-time $3.6 million sale of IP, in 2022, which was not repeated in the current quarter,
- Development and support related to systems supplied to the U.S. Navy related sales increased by $0.6 million due to the completion of several milestones and shipment of equipment,
- Torch-related products and services increased by $0.3 million, due to the three-month onsite support being extended by an additional three months and increased need of consumables and spare parts during operation,
- Biogas upgrading and pollution controls related sales increased by $0.7 million, specifically due to the project advancement of our regenerative thermal oxidizer system,

During the nine-month period ended September 30, 2023, revenues decreased by $6.4 million, mainly as a result of:

- PUREVAP™ related sales decreased by $4.2 million due to the completion of the project and initial phase of testing and one-time $3.6 million sale of IP, in 2022, which was not repeated in the current fiscal year,
- DROSRITE™ related sales decreased by $1.1 million due to the impact of the continued customer delays in funding for the construction of the onsite facility,
- Torch-related products and services decreased by $0.6 million, due to the final phase of the project being completed with the installation and commissioning at the customers facility. Three-month onsite support was extended by an additional three months,
- Biogas upgrading and pollution controls related sales decrease of $1.8 million is due to the delivery of and agreed completion of projects during the comparable period of the previous year.

As of November 9, 2023, revenue expected to be recognized in the future related to backlog of signed and/or awarded contracts is $35 million. Revenue will be recognized as the Company satisfies its performance obligations under long-term contracts, which is expected to occur over a maximum period of approximately 3 years.

2. Cost of Sales and Services and Gross Margins

Cost of sales and services were $2.6 million in Q3 2023, representing an increase of $1.0 million compared to $1.5 million in Q3, 2022, primarily due to a decrease of $0.1 million in employee compensation, a decrease of $0.3 million in subcontracting, attributed to additional work being completed in-house and the reversal of subcontracting related to our work completed in Italy with our Italian subsidiary, an increase in direct materials of $0.5 million due to the purchasing of material related to newly awarded contract/projects, a decrease in manufacturing overhead & other and investment tax credits of $0.02 million and $0.01 million, respectively, and a decrease in foreign exchange on materials due to the reclassification of the expense from Cost of Sales and Services to Selling, General and Administrative expenses.

The gross margin for Q3, 2023 was $1.1 million or 30% of revenue compared to a gross margin of $4.1 million or 73% of revenue for Q3 2022, the decrease in gross margin was mainly attributable to the reduced sales volume generating less gross profit and to the impact on foreign exchange charge on materials, and more significantly, the $3.6 million sale of IP in 2022 which was not repeated in the current quarter, and had 100% gross margin profit.

During the nine-month period ended September 30, 2023, cost of sales and services were $6.6 million compared to $8.0 million for the same period in the prior year, the $1.5 million decrease is primarily due to a decrease of $1.1 million in subcontracting (nine-month period ended September 30, 2022 - $1.2 million), attributed to additional work being completed in-house, a decrease in direct materials and manufacturing overhead & other of $1.2 million and $0.3 million respectively (nine-month period ended September 30, 2022 - $3.7 million and $1.1 million respectively), due to lower levels of material required based on the decrease in product and service-related revenues and the negative impact of the foreign exchange charge on material of $1.2 million.

The amortization of intangible assets for Q3, 2023 was $0.2 million compared to $0.2 million for Q3, 2022, and during the nine-month period ended September 30, 2023, was $0.7 million compared to $0.7 million for the same period in the prior year. This expense relates mainly to the intangible assets in connection with the Pyro Green-Gas acquisition, patents and deferred development costs. These expenses are non-cash items, and the intangible assets will be amortized over the expected useful lives.

As a result of the type of contracts being executed, the nature of the project activity, as well as the composition of the cost of sales and services, as the mix between labour, materials and subcontracts may be significantly different. In addition, due to the nature of these long-term contracts, the Company has not necessarily passed on to the customer, the increased cost of sales which was attributable to inflation, if any. The costs of sales and services are in line with management's expectations and with the nature of the revenue.

3. Selling, General and Administrative Expenses

Included within Selling, General and Administrative expenses ("SG&A") are costs associated with corporate administration, business development, project proposals, operations administration, investor relations and employee training.

SG&A expenses for Q3, 2023 were $7.6 million, representing an increase of $1.7 million compared to $5.9 million for Q3, 2022. The variation is mainly a result of the expected credit loss & bad debt provision increasing to $2.8 million in Q3, 2023, whereby no such expense was recorded in the comparable period. Furthermore, this was offset by a decrease in professional fees which are $0.8 million, thereby a decrease of $0.4 million (Q3, 2022 - $1.3 million), due to reduction in accounting fees, legal and investor relation, and patent expenses. Other expenses also decreased by $0.2 million (Q3, 2022 - $1.0 million) due to a net reduction of insurance expenses, and a favourable impact of $0.2 million on the foreign exchange charge on materials.

During the nine-month period ended September 30, 2023, SG&A expenses were $21.6 million, representing an increase of $2.9 million compared to $18.6 million for the same period in the prior year. The increase is mainly a result of employee compensation increasing to $7.2 million (nine-month period ended September 30, 2022 - $5.6 million) mainly caused by additional headcount. Expected credit loss & bad debt increased to $4.8 million and is due to an increase in the allowance for expected credit losses recognized in 2023, and the increase of the impact on foreign exchange charge on materials of $0.09 million, offset by the decreases of $0.6 million in professional fees, due to less legal, accounting and investor relation expenses, which are $3.1 million, compared to $3.7 million in the comparable period, and the decrease in other expenses, mainly related to the decrease of subcontracting and insurance expenses, to $2.5 million from $3.4 million, a variation of $0.9 million, compared to the nine-month period ended September 30, 2022.

Share-based compensation expense for the three and nine-month periods ended September 30, 2023, was $0.7 million and $2.4 million, respectively (three and nine-month period ended September 30, 2022 - $0.9 million and $4.2 million, respectively), a decrease of $0.3 million and $1.8 million respectively, which is a non-cash item and relates mainly to 2021, 2022 and 2023 grants.

Share-based payments expenses as explained above, are non-cash expenses and are directly impacted by the vesting structure of the stock option plan whereby options vest between 10% and up to 100% on the grant date and may require an immediate recognition of that cost.

4. Depreciation on Property and Equipment

The depreciation on property and equipment for the three and nine-month periods ended September 30, 2023 remained stable at $0.2 million and $0.5 million, respectively, compared with $0.2 million and $0.4 million for the same periods in the prior year. The expense is determined by the nature and useful lives of the property and equipment being depreciated.

5. Research and Development ("R&D") Expenses

During the three-months ended September 30, 2023, the Company incurred $0.7 million of R&D costs on internal projects, an increase of $0.4 million as compared with $0.3 million in Q3, 2022. The increase in Q3, 2023 is primarily related to an increase of $0.2 million in employee compensation to $0.4 million, due to an increase in R&D activities which required additional labour resources, compared to $0.2 million for the same period in the prior year, an increase in materials and equipment and other expenses, to $0.3 million (Q3, 2022 - $0.1 million), which is also attributable to the increase in employee compensation.

During the nine-months ended September 30, 2023, the Company incurred $1.7 million of R&D costs on internal projects, compared to $1.6 million for the same period in the prior year. The increase is mainly due to higher levels of R&D activities requiring additional resources and other expenses, increasing to $1.3 million as compared with $0.8 million, an increase of $0.5 million, which is offset by the decrease in material and equipment to $0.4 million compared to $0.7 million for the same period in the prior year.

In addition to internally funded R&D projects, the Company also incurred R&D expenditures during the execution of client funded projects. These expenses are eligible for Scientific Research and Experimental Development ("SR&ED") tax credits. SR&ED tax credits on client funded projects are applied against cost of sales and services (see "Cost of Sales" section 2).

6. Finance Costs (income), net

Finance costs for Q3 2023 represent an expense of $0.03 million, representing an increase year-over-year of approximately $0.2 million. The increase in finance expenses in Q3 2023, is primarily due to the interest and accretion related to the convertible debenture offset by the Interest accretion on and revaluation of balance due on business combination.

During the nine-month period ended September 30, 2023, the finance costs represent an income of $1.6 million as compared with an expense of $0.5 million for the 2022 comparable period, representing a favourable variation of $2.2 million year-over-year. The decrease in finance expenses is primarily due to the revaluation of balance due on business combination due to negotiations between the Company's Italian subsidiary and a customer who both agreed on the final acceptance of a contract, prior to final completion and the Company determined that a milestone related to the business combination would not be achieved. As a result, the contract did not attain the pre-determined milestone in connection with the balance due on business combination, and reversals of the liabilities were recorded.

7. Strategic Investments

During the three-months ended September 30, 2023, the adjustment to fair market value of strategic investments for Q3, 2023 resulted in a gain of $1.2 million compared to a loss in the amount of $1.8 million in Q3, 2022, a favorable variation of $3.0 million.

During the nine-months ended September 30, 2023, the adjustment to fair market value of strategic investments resulted in a gain of $0.2 million compared to a loss in the amount of $8.1 million for the same period in the prior year, a favorable variation of $8.3 million. The increase in gain for the three and nine-month periods ended September 30, 2023, is attributable to the variation of the market value of the common shares owned by the Company of HPQ Silicon Inc.

8. Comprehensive Loss

The comprehensive loss for Q3, 2023 of $6.3 million compared to a loss of $4.1 million, in Q3, 2022, represents a variation of $2.2 million, and is primarily attributable to the factors described above, which have been summarized as follows:

- a decrease in product and service-related revenue of $2.0 million arising in Q3, 2023,
- an increase in cost of sales and services of $1.0 million, primarily due to a decrease in employee compensation, subcontracting, and manufacturing overhead and other, offset by the increase in direct materials, foreign exchange charge on materials, and amortization of intangible assets,
- an increase in SG&A expenses of $1.7 million arising in Q3, 2023 primarily due to an increase in the allowance for credit loss of $2.8 million, offset by decreases in professional fees, other expenses, and foreign exchange charge on materials,
- a decrease in share-based expenses of $0.3 million,
- an increase in R&D expenses of $0.4 million primarily due to an increase in employee compensation, materials and equipment, and other expenses,
- an increase in finance costs of $0.03 million in Q3, 2023 primarily due to the interest and accretion on the convertible debenture and royalty receivable,
- a favourable variation in the fair market value of strategic investments of $3.0 million.

The comprehensive loss for the nine-month period ended September 30, 2023, of $18.7 million compared to a loss of $21.2 million, for the same period in the prior year, represents a variation of $2.4 million, and is primarily attributable to the factors described above, which have been summarized as follows:

- a decrease in product and service-related revenue of $6.4 million,
- a decrease in cost of sales and services of $1.5 million, primarily due to a decrease in employee compensation, subcontracting, direct materials, manufacturing overhead and other, and foreign exchange charge on materials, offset by the increase in investment tax credits, and amortization of intangible assets,
- an increase in SG&A expenses of $3.0 million was primarily due to an increase in employee compensation, travel, depreciation in property and equipment, depreciation of right-of-use assets, foreign exchange charge on materials, and the allowance for credit loss of $4.8 million which is offset by a decrease in professional fees, government grants, office and general, and other expenses,
- a decrease in share-based expenses of $1.8 million
- an increase in R&D expenses of $0.2 million primarily due to an increase in employee compensation, and other expenses and a decrease in subcontracting, materials, and equipment,
- a decrease in net finance costs (income) of $1.7 million is primarily due to the revaluation of balance due on business combination,
- a favourable variation in the fair market value of strategic investments of $8.3 million,

9. Liquidity and Capital Resources

As at September 30, 2023, the Company had cash of $0.9 million, included in the net working capital deficiency of $6.4 million. Certain working capital items such as billings in excess of costs and profits on uncompleted contracts do not represent a direct outflow of cash. The Company expects that with its cash, liquidity position, the proceeds available from the strategic investment and access to capital markets it will be able to finance its operations for the foreseeable future.

The Company’s term loan balance at September 30, 2023 was $396,675, and varied only slightly since December 31, 2022. The increase from January 1, 2022, to December 31, 2022, was mainly attributable to the additional proceeds received on the Economic Development Agency of Canada loan, which is interest free and will remain so, until the balance is paid over the 60-month period ending March 2029. During the three-month period ended September 30, 2023, the Company issued convertible debenture units for gross proceeds of $3,030,000, and bear interest at 10%. The average interest expense on the other term loans and convertible debenture is approximately 10%. The Company does not expect changes to the structure of term loans in the next twelve-month period. The Company maintained one credit facilities which bears interest at a variable rate of prime plus 1%, therefore 8.20% at September 30, 2023. The Company continued to reimburse a portion of the existing credit facility during Q3 2023.

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a proud leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce greenhouse gases (GHG) and are economically attractive alternatives to conventional “dirty” processes. PyroGenesis has created proprietary, patented and advanced plasma technologies that are being vetted and adopted by industry leaders in four massive markets: iron ore pelletization, aluminum, waste management, and additive manufacturing. With a team of experienced engineers, scientists and technicians working out of its Montreal office, and its 3,800 m2 and 2,940 m2 manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations of PyroGenesis are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. For more information, please visit: www.pyrogenesis.com.

Cautionary and Forward-Looking Statements

This press release contains "forward-looking information" and "forward-looking statements" (collectively, "forward-looking statements") within the meaning of applicable securities laws, including, without limitation, statements regarding anticipated use of the net proceeds of the Private Placement. In some cases, but not necessarily in all cases, forward-looking statements can be identified by the use of forward-looking terminology such as "plans", "targets", "expects" or "does not expect", "is expected", "an opportunity exists", "is positioned", "estimates", "intends", "assumes", "anticipates" or "does not anticipate" or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might", "will" or "will be taken", "occur" or "be achieved". In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances contain forward-looking statements. Forward-looking statements are not historical facts, nor guarantees or assurances of future performance but instead represent management's current beliefs, expectations, estimates and projections regarding future events and operating performance.

Forward-looking statements are necessarily based on a number of opinions, assumptions and estimates that, while considered reasonable by the Company as of the date of this release, are subject to inherent uncertainties, risks and changes in circumstances that may differ materially from those contemplated by the forward-looking statements. Important factors that could cause actual results to differ, possibly materially, from those indicated by the forward-looking statements include, but are not limited to, the risk factors identified under "Risk Factors" in the Company's latest annual information form, and in other periodic filings that the Company has made and may make in the future with the securities commissions or similar regulatory authorities, all of which are available under the Company's profile on SEDAR+ at www.sedarplus.ca, or at www.sec.gov. These factors are not intended to represent a complete list of the factors that could affect the Company. However, such risk factors should be considered carefully. There can be no assurance that such estimates and assumptions will prove to be correct. You should not place undue reliance on forward-looking statements, which speak only as of the date of this release. The Company undertakes no obligation to publicly update or revise any forward-looking statement, except as
required by applicable securities laws.

Neither the Toronto Stock Exchange, its Regulation Services Provider (as that term is defined in the policies of the Toronto Stock Exchange) nor the NASDAQ Stock Market, LLC accepts responsibility for the adequacy or accuracy of this press release.

FURTHER INFORMATION

Additional information relating to Company and its business, including the 2022 Financial Statements, the Annual Information Form and other filings that the Company has made and may make in the future with applicable securities authorities, may be found on or through SEDAR+ at www.sedarplus.ca, EDGAR at www.sec.gov or the Company's website at www.pyrogenesis.com.

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans, is also contained in the Company's most recent management information circular for the most recent annual meeting of shareholders of the Company.

For further information please contact:
Rodayna Kafal, Vice President, IR/Comms. and Strategic BD
Phone: (514) 937-0002, E-mail: ir@pyrogenesis.com

RELATED LINK: http://www.pyrogenesis.com/

A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/3b07cbe5-7cc4-404d-8ef7-d208ffab0db4

Exhibit 99.2

PyroGenesis Canada Inc.

Condensed Consolidated Interim Financial Statements

As at September 30, 2023 and for the three and nine-month period ended September 30, 2023 and 2022

(Unaudited)

The accompanying unaudited condensed consolidated financial statements of PyroGenesis Canada Inc. have been prepared by and are the responsibility of the Company's management. The Company's independent auditor has not performed a review of these unaudited condensed consolidated interim financial statements for the period ended September 30, 2023.

September 30, 2023

PyroGenesis Canada Inc.
Condensed Consolidated Interim Statements of Financial Position
(Unaudited)
(In Canadian dollars)

	Note	**September 30, 2023**	December 31, 2022
		$	$
Assets			
Current assets			
Cash		**873,498**	3,445,649
Accounts receivable	6	**12,339,329**	18,624,631
Costs and profits in excess of billings on uncompleted contracts	7	**989,544**	1,051,297
Inventory	16	**1,856,786**	1,876,411
Investment tax credits receivable	8	**304,474**	276,404
Income taxes receivable		**16,280**	14,169
Current portion of deposits		**493,331**	432,550
Current portion of royalties receivable		**603,523**	455,556
Contract assets		**620,710**	499,912
Prepaid expenses		**1,555,462**	771,603
Total current assets		**19,652,937**	27,448,182
Non-current assets			
Deposits		**46,297**	46,053
Strategic investments	9	**4,564,434**	6,242,634
Property and equipment		**2,985,371**	3,393,452
Right-of-use assets		**4,382,885**	4,818,744
Royalties receivable		**924,699**	952,230
Intangible assets		**1,625,371**	2,104,848
Goodwill		**2,660,607**	2,660,607
Total assets		**36,842,601**	47,666,750
Liabilities			
Current liabilities			
Bank indebtedness		**271,726**	991,902
Accounts payable and accrued liabilities	10	**9,525,215**	10,115,870
Billings in excess of costs and profits on uncompleted contracts	11	**10,884,983**	9,670,993
Current portion of term loans	12	**96,191**	69,917
Current portion of lease liabilities		**2,790,926**	2,672,212
Balance due on business combination		**1,689,030**	2,088,977
Income taxes payable		**186,457**	187,602
Current portion of convertible debenture		**641,984**	-
Total current liabilities		**26,086,512**	25,797,473
Non-current liabilities			
Lease liabilities		**2,443,313**	2,861,482
Term loans	12	**300,484**	320,070
Balance due on business combination		**-**	1,818,798
Convertible debenture		**1,889,603**	-
Total liabilities		**30,719,912**	30,797,823
Shareholders' equity	13		
Common shares		**90,670,080**	85,483,223
Warrants		**410,000**	223,200
Contributed surplus		**26,856,590**	24,546,960
Equity portion of convertible debenture		**318,092**	-
Accumulated other comprehensive income		**(31,578)**	402
Deficit		**(112,100,495)**	(93,384,858)
Total shareholders' equity		**6,122,689**	16,868,927
Total liabilities and shareholders' equity		**36,842,601**	47,666,750

The accompanying notes form an integral part of the condensed consolidated interim financial statements.
Contingent liabilities, Note 21.

PyroGenesis Canada Inc.
Condensed Consolidated Interim Statements of Comprehensive Loss
(Unaudited)
(In Canadian dollars)

	Notes	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
		$	$	**$**	$
Revenues	5	**3,685,725**	5,657,783	**9,316,826**	15,711,726
Cost of sales and services	16	**2,586,333**	1,544,607	**6,579,046**	8,047,554
Gross profit		**1,099,392**	4,113,176	**2,737,780**	7,664,172
Expenses					
Selling, general and administrative	16	**7,589,674**	5,911,488	**21,557,511**	18,615,390
Research and development, net		**680,889**	290,374	**1,746,790**	1,577,370
		8,270,563	6,201,862	**23,304,301**	20,192,760
Net loss from operations		**(7,171,171)**	(2,088,686)	**(20,566,521)**	(12,528,588)
Changes in fair value of strategic investments	9	**1,158,156**	(1,802,477)	**218,885**	(8,103,587)
Finance income (costs), net	17	**(215,277)**	(183,694)	**1,631,999**	(523,707)
Net loss before income taxes		**(6,228,292)**	(4,074,857)	**(18,715,637)**	(21,155,882)
Income taxes		**-**	-	**-**	76,095
Net loss		**(6,228,292)**	(4,074,857)	**(18,715,637)**	(21,231,977)
Other comprehensive income (loss)					
Items that will be reclassified subsequently to profit or loss					
Foreign currency translation gain (loss) on investments in foreign operations		**(28,000)**	21,151	**(31,980)**	69,622
Comprehensive loss		**(6,256,292)**	(4,053,706)	**(18,747,617)**	(21,162,355)
Loss per share					
Basic	18	**(0.03)**	(0.02)	**(0.10)**	(0.12)
Diluted	18	**(0.03)**	(0.02)	**(0.10)**	(0.12)

The accompanying notes form an integral part of the condensed consolidated interim financial statements.

PyroGenesis Canada Inc.
Condensed Consolidated Interim Statements of Changes in Shareholders' Equity
(Unaudited)
(In Canadian dollars)

	Notes	Number of common shares	Common shares	Warrants	Contributed surplus	Equity component of convertible debenture	Accumulated other comprehensive income	Deficit	Total
			$	**$**	**$**	**$**	**$**	**$**	**$**
Balance - December 31, 2022		**173,580,395**	**85,483,223**	**223,200**	**24,546,960**	**-**	**402**	**(93,384,858)**	**16,868,927**
Shares issued upon exercise of stock options	13	**300,000**	**153,000**	**-**	**-**	**-**	**-**	**-**	**153,000**
Private placement, net of issuance costs	13	**5,000,000**	**4,960,483**	**-**	**-**	**-**	**-**	**-**	**4,960,483**
Convertible debentures - equity component		**-**	**-**	**186,800**	**-**	**318,092**	**-**	**-**	**504,892**
Share-based payments	13	**-**	**73,374**	**-**	**2,309,630**	**-**	**-**	**-**	**2,383,004**
Other comprehensive loss		**-**	**-**	**-**	**-**	**-**	**(31,980)**	**-**	**(31,980)**
Net loss		**-**	**-**	**-**	**-**	**-**	**-**	**(18,715,637)**	**(18,715,637)**
Balance – September 30, 2023		**178,880,395**	**90,670,080**	**410,000**	**26,856,590**	**318,092**	**(31,578)**	**(112,100,495)**	**6,122,689**
Balance - December 31, 2021		170,125,795	82,104,086	-	19,879,055	-	3,444	(61,217,831)	40,768,754
Shares issued upon exercise of stock options	13	1,200,000	1,125,263	-	(429,263)	-	-	-	696,000
Share-based payments	13	-	-	-	4,222,242	-	-	-	4,222,242
Other comprehensive income		-	-	-	-	-	69,622	-	69,622
Net loss		-	-	-	-	-	-	(21,231,977)	(21,231,977)
Balance – September 30, 2022		171,325,795	83,229,349	-	23,672,034	-	73,066	(82,449,808)	24,524,641

The accompanying notes form an integral part of the condensed consolidated interim financial statements.

PyroGenesis Canada Inc.
Condensed Consolidated Interim Statements of Cash Flows
(Unaudited)
(In Canadian dollars)

	Note	Three months ended September 30, **2023**	2022	Nine months ended September 30, **2023**	2022
		$	$	**$**	$
Cash flows provided by (used in)					
Operating activities					
Net loss		**(6,228,292)**	(4,074,857)	**(18,715,637)**	(21,231,975)
Adjustments for:					
Share-based payments	16	**653,902**	931,572	**2,383,004**	4,222,242
Depreciation of property and equipment	16	**158,500**	155,481	**476,871**	446,883
Depreciation of right-of-use assets	16	**182,251**	157,844	**503,604**	479,466
Amortization of intangible assets	16	**221,752**	218,760	**665,256**	656,278
Amortization of contract assets		**23,088**	117,070	**50,866**	212,240
Finance costs (income)	17	**215,277**	183,694	**(1,631,999)**	523,707
Change in fair value of investments		**(1,158,156)**	1,802,477	**(218,885)**	8,103,587
Income taxes		**-**	-	**-**	76,095
Unrealized foreign exchange		**(33,268)**	5,880	**(18,979)**	48,090
		(5,964,946)	(502,079)	**(16,505,899)**	(6,463,387)
Net change to working capital items	15	**2,691,828**	1,089,162	**5,780,930**	(3,439,454)
		(3,273,118)	587,083	**(10,724,969)**	(9,902,841)
Investing activities					
Additions to property and equipment		**(18,448)**	(46,753)	**(68,789)**	(238,979)
Additions to right-of-use assets		**-**	-	**(67,745)**	-
Additions to intangible assets		**(71,793)**	(54,012)	**(185,779)**	(116,980)
Purchase of strategic investments	9	**-**	-	**(559,460)**	(3,604,000)
Disposal of strategic investments		**802,244**	750,390	**2,456,546**	3,703,237
		712,003	649,625	**1,574,773**	(256,722)
Financing activities					
Bank indebtedness		**(60,463)**	(228,134)	**(720,176)**	713,046
Interest paid		**(80,515)**	(179,572)	**(267,504)**	(419,028)
Repayment of term loans		**(19,994)**	(8,304)	**(35,185)**	(24,693)
Repayment of lease liabilities		**(141,897)**	(464,138)	**(299,455)**	(656,713)
Repayment of balance due on business combination		**-**	-	**(100,000)**	(217,778)
Proceeds from issuance of convertible debentures		**2,913,661**	-	**2,913,661**	-
Proceeds from issuance of shares upon exercise of stock options		**-**	696,000	**153,000**	696,000
Proceeds from issuance of term loans		**-**	-	**-**	203,857
Proceeds from private placement, net of issuance costs		**-**	-	**4,960,483**	-
Financing costs		**(12,630)**	-	**(12,630)**	-
		2,598,162	(184,148)	**6,592,194**	294,691
Effect of exchange rate changes on cash denominated in foreign currencies		**6,868**	20,793	**(14,149)**	27,040
Net decrease in cash and cash equivalents		**43,915**	1,073,353	**(2,572,151)**	(9,837,832)
Cash and cash equivalents - beginning of period		**829,583**	1,291,508	**3,445,649**	12,202,513
Cash and cash equivalents - end of period		**873,498**	2,364,861	**873,498**	2,364,681
Supplemental cash flow disclosure					
Non-cash transactions:					
Interest accretion on and revaluation of balance due on business combination	17	**(19,131)**	43,222	**(2,118,745)**	170,310
Accretion interest on royalties receivable	17	**(35,763)**	39,099	**(120,437)**	78,012
Accretion on term loan	17	**8,646**	7,816	**25,414**	20,197
Interest on convertible debenture	17	**60,600**	-	**60,600**	-
Accretion on convertible debenture	17	**62,218**	-	**62,218**	-

The accompanying notes form an integral part of the condensed consolidated interim financial statements

1. Nature of operations

PyroGenesis Canada Inc. and its subsidiaries (collectively, the “Company”), incorporated under the laws of the Canada Business Corporations Act, was formed on July 11, 2011. The Company owns patents of advanced waste treatment systems technology and designs, develops, manufactures, and commercialises advanced plasma processes and sustainable solutions to reduce greenhouse gases. The Company is domiciled at 1744 William Street, Suite 200, Montreal, Quebec. The Company is publicly traded on the TSX Exchange under the Symbol “PYR”, on NASDAQ in the USA under the symbol "PYR" and on the Frankfurt Stock Exchange (FSX) under the symbol “8PY “. In October 2023, the Company notified the NASDAQ of its intention to voluntarily delist its Common shares from NASDAQ, and the Company has also taken steps to have its Common shares quoted on the OTCQX Best Market.

2. Going concern

These condensed consolidated financial statements have been prepared on the going concern basis, which presumes that the Company will be able to continue its operations for the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

The Company is subject to certain risks and uncertainty associated with the achievement of profitable operations such as the successful signing and delivery of contracts and access to adequate financing.

The Company has incurred, in the last years, operating losses and negative cash flows from operations, and as a result, the Company has an accumulated deficit of $112,100,495 as at September 30, 2023, ($93,384,858 as at December 31, 2022). Furthermore, there have been unexpected delays in the collection of certain accounts receivable from contracts closed in a prior year. This has resulted in a shortfall in cash flows from operating activities that would be used in funding the Company’s operations.

As at September 30, 2023, the Company has working capital deficiency of $6,433,575 ($1,650,709 as at December 31, 2022) including cash of $873,498 ($3,445,649 as at December 31, 2022). The working capital is net of an allowance for credit losses amounting to $9,073,254 ($5,023,283 as at December 31, 2022) as further described in Notes 6 and 7. The Company’s business plan is dependent upon the successful completion of contracts and also the receipt of payments from certain contracts closed in a prior year and expects these payments to be made during fiscal 2023, as well as the achievement of profitable operations through the signing, completion and delivery of additional contracts or a reduction in certain operating expenses. In the absence of this, the Company is dependent upon raising additional funds to finance operations within and beyond the next twelve months. The Company has been successful in securing financing in the past and has relied upon external financing to fund its operations, primarily through the issuance of equity, debt and convertible debentures. The Company completed a private placement in October 2022 for an amount of $1,318,980 and also completed another private placement in March 2023 for net proceeds $4,960,483 (Note 13). In addition, in July 2023, the Company also completed a brokered private placement of convertible debenture units for gross proceeds of $3,030,000 (Note 14). While the Company has been successful in securing financing, raising additional funds is dependent on a number of factors, some of which are outside the Company’s control, and therefore there is no assurance that it will be able to do so in the future or that these sources will be available to the Company or that they will be available on terms which are acceptable to the Company. These conditions indicate the existence of a material uncertainty that may cast significant doubt about the Company’s ability to continue operating as a going concern.

The condensed consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and to classifications of the assets and liabilities that might be necessary should the Company be unable to achieve its plan and continue in business. If the going concern assumption were not appropriate, adjustments, which could be material, would be necessary to the carrying value of assets and liabilities, the reported expenses, and the classification of items on the condensed consolidated statement of financial position.

3. Basis of preparation

(a) Statement of compliance

These financial statements have been prepared in accordance with International Accounting Standards (“IAS”) 34 Interim Financial Statements, as issued by the International Accounting Standards Board ("IASB"). These condensed consolidated interim financial statements do not include all of the necessary information required for full annual financial statements in accordance with International Financial Reporting Standards (“IFRS”) and should be read in conjunction with the Company’s audited financial statements for the year ended December 31, 2022.

These financial statements were approved and authorized for issuance by the Board of Directors on November 9, 2023.

(b) Functional and presentation currency

These consolidated financial statements are presented in Canadian dollars, which is the functional currency of PyroGenesis, and Pyro Green-Gas Inc. The functional currency of Airscience Italia SRL is the euro whereas the functional currency of Airscience Technologies Private Limited is the Indian rupee, and Drosrite International LLC’s functional currency is the US dollar.

(c) Basis of measurement

These financial statements have been prepared on the historical cost basis except for:

(i) strategic investments which are accounted for at fair value,
(ii) stock-based payment arrangements, which are measured at fair value on the grant date pursuant to IFRS 2, Share-based Payment; and
(iii) lease liabilities, which are initially measured at the present value of minimum lease payments

(d) Basis of consolidation

For financial reporting purposes, subsidiaries are defined as entities controlled by the Company. The Company controls an entity when it has power over the investee; it is exposed to, or has rights to, variable returns from its involvement with the entity and it has the ability to affect those returns through its power over the entity.

In instances where the Company does not hold a majority of the voting rights, further analysis is performed to determine whether or not the Company has control of the entity. The Company is deemed to have control when, according to the terms of the shareholder’s and/or other agreements, it makes most of the decisions affecting relevant activities.

These consolidated financial statements include the accounts of PyroGenesis and its subsidiaries, Drosrite International LLC and Pyro Green-Gas Inc. and its subsidiaries. Drosrite International LLC is owned by a member of the Company’s management personnel and close member of the Chief Executive Officer (“CEO”) and controlling shareholder’s family and is deemed to be controlled by the Company. All transactions and balances between the Company and its subsidiaries have been eliminated upon consolidation.

The accounting policies disclosed in the December 31, 2022 year-end consolidated financial statements have been applied consistently in the preparation of these condensed consolidated interim financial statements. Finance income (costs) and changes in fair value of strategic investments are excluded from the loss from operations in the consolidated statements of comprehensive loss.

4. Significant accounting judgments, estimates and assumptions

The significant judgments, estimates and assumptions applied by the Company in these condensed consolidated interim financial statements are the same as those applied by the Company in its audited annual financial statements as at and for the year ended December 31, 2022.

(In Canadian dollars)

5. Revenues

The following table is a summary of the Company's revenues from contracts by product line:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
High purity metallurgical grade silicon & solar grade silicon from quartz (PUREVAP™)	**415,415**	4,243,138	**1,388,854**	5,617,942
Aluminium and zinc dross recovery (DROSRITE™)	**118,745**	71,431	**324,296**	1,408,048
Development and support related to systems supplied to the U.S. Navy	**1,003,592**	420,809	**2,168,820**	1,757,168
Torch-related products and services	**950,290**	684,997	**2,682,979**	3,307,150
Refrigerant destruction (SPARC™)	**104,784**	—	**360,075**	—
Biogas upgrading and pollution controls	**768,396**	89,698	**1,419,362**	3,260,850
Other sales and services	**324,503**	147,710	**972,440**	360,568
	3,685,725	5,657,783	**9,316,826**	15,711,726

The following table is a summary of the Company's revenues by revenue recognition method:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Revenue from contracts with customers:				
Sales of goods under long-term contracts recognized over time	**3,141,381**	1,997,474	**8,010,472**	11,406,066
Sales of goods at a point of time	**544,344**	60,309	**1,306,354**	705,660
Other revenue:				
Sale of intellectual properties	—	3,600,000	—	3,600,000
	3,685,725	5,657,783	**9,316,826**	15,711,726

See Note 22 for sales by geographic area.

Transaction price allocated to remaining performance obligations:

As at September 30, 2023, revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially satisfied) at the reporting date is $29,367,812 ($26,741,550 as at December 31, 2022). Revenue will be recognized as the Company satisfies its performance obligations under long-term contracts, which is expected to occur over the next 3 years.

(In Canadian dollars)

6. Accounts receivable

Details of accounts receivable based on past due terms were as follows:

	September 30, 2023	December 31, 2022
	$	$
Current	**6,197,434**	6,578,269
1 – 30 days	**600,438**	15,959
31 – 60 days	**64,737**	57,944
61 – 90 days	**242,778**	718,239
Greater than 90 days	**12,451,071**	13,790,716
Holdback receivable[1]	**734,666**	1,536,115
Total trade accounts receivable	**20,291,124**	22,697,242
Allowance for expected credit loss	**(8,452,254)**	(4,693,283)
Other receivables	**243,093**	240,560
Sales tax receivable	**257,366**	380,112
	12,339,329	18,624,631

[1] Holdbacks are non-interest bearing, non-secured and represents an amount retained by the customers, based on milestones defined in the contract, and are not due until final acceptance of the contract stage of the project or the final inspection of the delivered goods. These amounts are agreed in advance and the terms of payment may exceed the general terms of payment of the Company. The Company only recognizes an amount when it can reasonably determine that these inspection and acceptance steps have been met.

As at September 30, 2023 the allowance for expected credit loss on trade accounts receivable is $8,452,254 ($4,693,283 as at December 31, 2022). The amount as at September 30, 2023, includes $7,510,901 attributable to one specific customer, whereby the carrying amount has been reduced from $10,872,758 to $3,361,857. The remaining credit allowance is $941,353 and attributable to all other trade accounts, whereby the carrying value was reduced from $9,418,366 to $8,477,103. On the basis of the Company's expected credit loss policy, the allowance was determined generally by applying a loss rate of 1% on balances 1-30 days past the invoice date, 2% for 31-60 days, 3% for 61-90 days and a minimum of 10% for those beyond 90 days. Specific consideration was applied for situations where the receivable is a holdback on a contract, and also for customers that have exceeded normal payment terms.

The closing balance of the trade receivables credit loss allowance as at September 30, 2023 reconciles with the trade receivables credit loss allowance opening balance as follows:

	$
Loss allowance at December 31, 2021	**520,000**
Loss recognized during the year	**4,150,000**
Foreign exchange	**23,283**
Loss allowance at December 31, 2022	**4,693,283**
Loss recognized during the period[1]	**3,757,414**
Foreign exchange	**1,557**
Loss allowance at September 30, 2023	**8,452,254**

[1] For the three-month period ended September 30, 2023. the loss recognized was $2,484,414 and $3,757,414 for the nine-month period ended September 30, 2023.

7. Costs and profits in excess of billings on uncompleted contracts

As at September 30, 2023, the Company had fifteen contracts with total billings of $15,781,533 which were less than total costs incurred and had recognized cumulative revenue of $17,392,077 since those projects began. This compares with eighteen contracts with total billings of $10,475,299 which were less than total costs incurred and had recognized cumulative revenue of $11,856,596 as at December 31, 2022.

The net amount of $989,544 as at September 30, 2023 includes an expected credit loss allowance of $621,000 ($330,000 as at December 31, 2022). On the basis of the Company's expected credit loss policy, the allowance was determined
generally by applying a loss rate of 2% on all balances, and adjusting for specific situations, such as past due customers, whereby the loss rate varied from 25% to 50% or greater if needed.

(In Canadian dollars)

Changes in costs and profits in excess of billings on uncompleted contracts during the nine-month period ended September 30, 2023, are explained by $644,813 recognized at the beginning of the period being transferred to accounts receivable, and $583,060 resulting from changes in the measure of progress, including $291,000 due to the variation of the expected credit loss allowance.

8. Investment tax credits

Investment tax credits earned, for the three and nine-month periods ended September 30, 2023, amount to $55,817, and $135,041, respectively ($44,423 and $115,856) for the three and nine-month periods ended September 30, 2022, respectively.

In the nine-month period ended September 30, 2023, an investment tax credit of $135,041 was earned whereby $80,404 was recorded against Cost of sales and services, $32,137 against Research and development expenses and $22,500 against Selling, general and administrative expenses. During the nine-month period ended September 30, 2022, the Company earned $115,856 of investment tax credits, whereby $46,818 was recognized against Cost of sales and services, $46,538 against Research and development expenses and $22,500 against Selling, general and administrative expenses.

9. Strategic investments

	September 2023	December 31, 2022
	$	$
Beauce Gold Fields ("BGF") shares – level 1	**41,032**	56,419
HPQ Silicon Inc. ("HPQ") shares - level 1	**4,523,402**	5,415,749
HPQ warrants – level 3	**—**	770,466
	4,564,434	6,242,634

The change in the strategic investments is summarized as follows:

	("BGF") shares – level 1		("HPQ") shares - level 1		HPQ warrants – level 3		Total
	Quantity	$	Quantity	$	Quantity	$	$
Balance, December 31, 2021	1,025,794	123,095	26,752,600	12,306,196	9,594,600	2,472,368	14,901,659
Additions	—	—	6,800,000	3,196,000	6,800,000	408,000	3,604,000
Disposed	—	—	(11,447,500)	(3,922,244)	—	—	(3,922,244)
Change in the fair value	—	(66,676)	—	(6,164,203)	—	(2,109,902)	(8,340,781)
Balance, December 31, 2022	**1,025,794**	**56,419**	**22,105,100**	**5,415,749**	**16,394,600**	**770,466**	**6,242,634**
Additions	**—**	**—**	**5,594,600**	**651,406**	**(5,594,600)**	**(91,946)**	**559,460**
Disposed[1]	**—**	**—**	**(10,302,000)**	**(2,456,546)**	**(4,000,000)**	**—**	**(2,456,546)**
Change in the fair value	**—**	**(15,387)**	**—**	**912,793**	**—**	**(678,520)**	**218,886**
Balance, September 30, 2023	**1,025,794**	**41,032**	**17,397,700**	**4,523,402**	**6,800,000**	**—**	**4,564,434**

[1]During the period ended September 30, 2023, 4,000,000 warrants at an exercise price of $0.61 per warrant, were not exercised and have since expired and disposed.

(In Canadian dollars)

At September 30, 2023 and December 31, 2022, the fair value of the HPQ warrants was measured using the Black-Scholes option pricing model using the following assumptions:

	September 30, 2023			**December 31, 2022**	
Number of warrants	6,800,000	1,200,000	4,394,600	4,000,000	6,800,000
Date of issuance	20-Apr-22	29-Apr-20	2-Jun-20	3-Sep-20	20-Apr-22
Exercise price ($)	0.60	0.10	0.10	0.61	0.60
Assumptions under the Black-Scholes model:					
Fair value of the shares ($)	0.21	0.25	0.25	0.25	0.25
Risk free interest rate (%)	3.79	4.03	4.03	4.03	4.03
Expected volatility (%)	79.28	80.55	73.74	76.85	74.58
Expected dividend yield	—	—	—	—	—
Contractual remaining life (in months)	7	4	5	8	16

Warrants are subject to a “Holder’s Exercise Limitation” clause, whereby the Company shall not affect any exercise of warrants, nor have the right to exercise any portion of the warrants to the extent that after giving effect to such issuance after exercise, the Company would beneficially own in excess of 9.99% of the HPQ common shares.

As at September 30, 2023, a loss from initial recognition of the warrants of $1,199,792 ($280,926 at December 31, 2022) has been deferred off balance sheet until realized.

10. Accounts payable and accrued liabilities

	September 2023	December 31, 2022
	$	$
Accounts payable	**5,838,061**	6,065,996
Accrued liabilities	**2,175,425**	2,891,053
Sale commissions payable[1]	**924,711**	904,724
Accounts payable to the controlling shareholder and CEO	**587,018**	254,097
	9,525,215	10,115,870

[1] Sale commissions payable relate to the costs to obtain long-term contracts with clients.

11. Billings in excess of costs and profits on uncompleted contracts

The amount to date of costs incurred and recognized profits less recognized losses for construction projects in progress for the nine-month period ended September 30, 2023, amounted to $33,289,034 ($37,374,909 as at December 31, 2022). Payments to date received for the nine-month period ended September 30, 2023, was $44,174,017 on contracts in progress ($47,045,902 as at December 31, 2022).

Changes in billings in excess of costs and profits on uncompleted contracts during the nine-month period ended September 30, 2023, is explained by $3,916,485 recognized at the beginning of the period being recognized as revenue, and an increase of $5,130,475 resulting from cash received, excluding amounts recognized as revenue. The variation in billings in excess of costs and profits on uncompleted contracts during the nine-month period ended September 30, 2022, is explained by $3,430,725 recognized at the beginning of the period being recognized as revenue, and an increase of $1,393,599 resulting from cash received, excluding amounts recognized as revenue.

(In Canadian dollars)

12. Term loans

	Economic Development Agency of Canada Loan[1]	Other Term Loans[2]	Other Term Loans[3]	Canada Emergency Business Account Loan[4]	Total
	$	$	$	$	$
Balance, December 31, 2022	320,070	11,617	8,300	50,000	389,987
Accretion	25,414	—	—	—	25,414
Payments	—	(10,426)	(8,300)	—	(18,726)
Balance, September 30, 2023	345,484	1,191	—	50,000	396,675
Less current portion	(45,000)	(1,191)	—	(50,000)	(96,191)
Balance, September 30, 2023	**300,484**	**—**	**—**	**—**	**300,484**

[1] Maturing in 2029, non-interest bearing, payable in equal instalments from April 2024 to March 2029.
[2] Matured October 23, 2023, bearing interest at a rate of 6.95% per annum, payable in monthly instalments of $1,200 (including interest in capital) secured by an automobile with a carrying amount of $1,078 at September 30, 2023.
[3] Matured in May 2023, payable in monthly instalments of $1,660, bore interest at 7.45%.
[4] Loan bearing no interest and no minimum repayment, if repaid by December 2023.

13. Convertible debenture

2023 Convertible Debenture

On July 21, 2023, the Company closed a brokered private placement offering 3,030 unsecured convertible debenture units at a price of $1,000 per debenture unit. Each convertible debenture unit will consist of one 10.0% unsecured convertible debenture with a maturity of 36 months from date of issuance and 1,000 common share purchase warrants. Each warrant shall entitle the holder therefor to acquire one common share at an exercise price of $1.25 for a period of 24 months following the closing date.

The convertible debenture shall bear interest at a rate of 10.0% per annum from the date of issue, payable semi-annually in arrears on the last day of June and December in each year, at the sole discretion of the Company, in: (i) cash or (ii) subject to regulatory approval, common shares at a deemed issue price equal to the volume weighted average price for five (5) consecutive trading days ending five (5) trading days preceding the date of repayment on the TSX, or other principal exchange the common shares are listed. Interest shall be computed on the basis of a 360-day year composed of twelve 30-day months. The first interest payment will represent accrued interest for the period from the closing of the offering to December 31, 2023.

Commencing on February 21, 2024, the principal amount of the convertible debentures will be repaid on a monthly basis, payable in arrears, in either, at the sole discretion of the Company: (i) cash or (ii) subject to regulatory approval, common shares at a deemed issue price equal to the volume weighted average price for five (5) consecutive trading days ending five (5) trading days preceding the date of repayment on the TSX, or other principal exchange the common shares are listed. For greater clarity, the Company will repay 1/30th of the outstanding principal amount per month for the remaining 30 months remaining until the maturity date.

The 2023 convertible debenture is a compound financial instrument, and the total proceeds of the issuance was allocated between a liability for the debenture and an equity component for the conversion feature and warrants. The fair value of the debt liability component at inception was determined using estimated future cash flows discounted using a market interest rate of 25%. The residual amount representing the value of the conversion option equity component and warrants were classified in the shareholders' (Deficiency) Equity.

In connection with the convertible debenture, the Company paid transaction fees in the amount of $116,339 to the agent, and such fees have been allocated between the liability and equity components. The effective interest rate of the liability component is 28.07%.

(In Canadian dollars)

At the issuance date, the 2023 Convertible Debenture was recorded as follows:

	$
Debt component, net of transaction costs of $96,179	**2,408,769**
Conversion option and warrants recognized in equity, net of transaction costs of $20,160	**504,892**
Net proceeds	**2,913,661**

The following table illustrates the variation of the liability component of the convertible debenture from the issuance until the end of period:

	September 30, 2023
	$
2023 Convertible Debenture, at issuance	**2,408,769**
Interest and accretion expense	**122,818**
Balance, end of period	**2,531,587**

14. Shareholders' equity

Common shares and warrants

Authorized:

The Company is authorized to issue an unlimited number of common shares without par value.

Issuance of units

On March 8, 2023, the Company completed a non-brokered private placement consisting of the issuance and sale of 5,000,000 units of the Company at a price of $1.00 per unit, for net proceeds of $4,960,483 (gross proceeds of $5,000,000). Each unit consists of one common share of the Company and one common share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $1.25 until March 7, 2025. The entire amount is allocated to the common shares as the fair value of the common shares on March 8, 2023, was $1.38.

On July 21, 2023, the Company completed a brokered private placement offering 3,030 unsecured convertible debenture units at a price of $1,000 per debenture unit. Each convertible debenture unit consists of one 10.0% unsecured convertible debenture with a maturity of 36 months from the date of issuance and 1,000 common share purchase warrants. Each warrant shall entitle the holder therefore to acquire one common share at an exercise price of $1.25 for a period of 24 months following the closing date. The total net proceeds were allocated to the liability and shareholders equity, whereby a total of $504,892 is recognized as warrants and as the equity portion of the convertible debenture.

Stock options

The Company has a stock option plan authorizing the Board of Directors to grant options to directors, officers, employees and consultants to acquire common shares of the Company at a price computed by reference to the closing market price of the shares of the Company on the business day before the Company notifies the stock exchanges of the grant of the option. The number of shares which may be granted to any one person shall not exceed 5% (2% for consultants) of total share capital over a twelve-month period.

(In Canadian dollars)

The following table sets out the activity in stock options:

	Number of options	Weighted average exercise price
		$
Balance – December 31, 2021	8,403,000	3.10
Granted	2,475,000	3.55
Exercised	(2,440,000)	0.58
Forfeited	(242,500)	4.07
Balance, December 31, 2022	8,195,500	3.96
Granted	**3,050,000**	**0.80**
Exercised[1]	**(300,000)**	**0.51**
Forfeited	**(125,000)**	**1.92**
Balance, September 30, 2023	**10,820,500**	**3.19**

[1] The weighted fair market value of the share price for options exercised in 2023 was $1.01.

Grants in 2023

In January 2023, the Company granted 150,000 stock options to the President and Chief Executive Officer of the Company, and 500,000 stock options to members of its Board of Directors. The stock options have an exercise price of $1.03 per common share, vest immediately and are exercisable over a period of five years. The Company recorded an expense of $453,204 related to these options in fiscal 2022 as the stock options granted related to the services rendered in 2022, for which there was a shared understanding of the terms and conditions related to such grant prior to the grant date.

Also, in January 2023, the Company also granted 975,000 stock options to employees of the Company. The stock options have an exercise price of $1.03 per common share. The 975,000 options will vest as follows: 10 percent as of the day of the grant, 20 percent at the first anniversary of the date of the grant, 30 percent on the second anniversary of the date of the grant and 40 percent on the third anniversary of the date of the grant. All options mentioned above are exercisable over a period of five (5) years.

In September 2023, the Company granted 450,000 stock options to the President and Chief Executive Officer of the Company, and 975,000 stock options to members of its Board of Directors. The stock options have an exercise price of $0.53 per common share, 50% vested immediately and 50% vest six months following the grant date and are exercisable over a period of five (5) years. The Company recorded an expense amounting to $528,637 related to these options in fiscal 2023.

Grants in 2022

In January 2022, the Company granted 150,000 stock options to the President and Chief Executive Officer of the Company, and 300,000 stock options to members of its Board of Directors. The stock options have an exercise price of $3.36 per common share, vest immediately and are exercisable over a period of five (5) years.

In April 2022, the Company granted 400,000 stock options to employees of the Company. The stock options have an exercise price of $2.96 per common share. The 400,000 options will vest as follows: 10 percent as of the day of the grant, 20 percent at the first anniversary of the date of the grant, 30 percent on the second anniversary of the date of the grant and 40 percent on the third anniversary of the date of the grant. All options mentioned above are exercisable over a period of five (5) years.

In June 2022, the Company granted 600,000 stock options to the President and Chief Executive Officer of the Company, and 900,000 stock options to members of its Board of Directors. The 1,500,000 options will vest as follows: 25 percent as of the day of the grant, 25 percent at the first anniversary of the date of the grant, 25 percent on the second anniversary of the date of the grant and 25 percent at the third anniversary of the date of the grant. The stock options have an exercise price of $3.88 per common share and are exercisable over a period of five (5) years.

(In Canadian dollars)

In July 2022, the Company granted 125,000 stock options to employees of the Company. The stock options have an exercise price of $2.14 per common share. The 125,000 options will vest as follows: 10 percent as of the day of the grant, 20 percent at the first anniversary of the date of the grant, 30 percent on the second anniversary of the date of the grant and 40 percent on the third anniversary of the date of the grant. All options mentioned above are exercisable over a period of five (5) years.

The weighted average fair value of stock options granted for the nine-month period ended September 30, 2023, was $0.80 ($3.55 for the nine-month period ended September 30, 2022). The weighted average fair value of each option granted was estimated at the grant date for purposes of determining share-based payment expense using the Black-Scholes option pricing model based on the following weighted-average assumptions:

	2023			2022			
Number of options granted	**650,000**	**975,000**	**1,425,000**	150,000	400,000	1,500,000	125,000
Exercise price ($)	**1.03**	**1.03**	**0.53**	3.36	2.96	3.88	2.14
Fair value of each option under the Black-Scholes pricing model ($)	**0.70**	**0.70**	**0.37**	2.17	1.98	2.61	1.44
Assumptions under the Black-Scholes model:							
Fair value of the shares ($)	**1.03**	**1.03**	**0.53**	3.36	3.36	3.36	3.36
Risk-free interest rate (%)	**3.38**	**3.38**	**4.21**	1.25	2.50	2.87	3.11
Expected volatility (%)	**83.15**	**83.15**	**86.33**	82.45	83.36	83.31	83.31
Expected dividend yield	**—**	**—**	**—**	—	—	—	—
Expected life (number of months)	**60**	**60**	**60**	60	60	60	60

The underlying expected volatility was determined by reference to historical data of the Company’s share price. No special features inherent to the stock options granted were incorporated into the measurement of fair value.

(In Canadian dollars)

As at September 30, 2023, the outstanding options, as issued under the stock option plan to directors, officers, employees and consultants for the purchases of one common share per option, are as follows:

Issuance date	Number of stock options 31-Dec-22	Granted	Exercised	Forfeitures	Number of stock options 30-Sep-23	Number of stock options vested [1]	Exercise price per option	Expiry date
							$	
July 3, 2018	300,000	—	(300,000)	—	—	—	0.51	July 3, 2023
September 29, 2019	100,000	—	—	—	100,000	100,000	0.51	September 29, 2024
January 2, 2020	100,000	—	—	—	100,000	100,000	0.45	January 2, 2025
July 16, 2020	2,200,500	—	—	(10,000)	2,190,500	2,190,500	4.41	July 16, 2025
October 26, 2020	50,000	—	—	—	50,000	37,500	4.00	October 26, 2025
April 6, 2021	550,000	—	—	—	550,000	510,000	8.47	April 6, 2026
June 1, 2021	200,000	—	—	—	200,000	150,000	6.59	June 1, 2026
June 14, 2021	100,000	—	—	—	100,000	75,000	6.70	June 14, 2026
October 14, 2021	100,000	—	—	—	100,000	30,000	5.04	October 14, 2026
December 17, 2021	1,920,000	—	—	—	1,920,000	1,920,000	3.13	December 17, 2026
December 31, 2021	100,000	—	—	—	100,000	30,000	3.61	December 31, 2026
January 3, 2022	450,000	—	—	—	450,000	450,000	3.36	January 3, 2027
April 5, 2022	400,000	—	—	—	400,000	120,000	2.96	April 5, 2027
June 2, 2022	1,500,000	—	—	—	1,500,000	750,000	3.88	June 2, 2027
July 13, 2022	125,000	—	—	(70,000)	55,000	37,500	2.14	July 13, 2027
January 2, 2023	—	1,625,000	—	(45,000)	1,580,000	768,000	1.03	January 2, 2028
September 29, 2023	—	1,425,000	—	—	1,425,000	712,500	0.53	September 29, 2028
	8,195,500	**3,050,000**	**(300,000)**	**(125,000)**	**10,820,500**	**7,981,000**	**3.19**	

[1] At September 30, 2023, the weighted average exercise price for options outstanding which are exercisable was $3.50.

For the three-month and nine-month periods ended September 30, 2023, a stock-based compensation expense of $653,899 and $2,383,004, respectively, was recorded in Selling, general and administrative expenses in the condensed consolidated statements of comprehensive loss, ($931,572 and $4,222,242 for the three-month and nine-month periods ended September 30, 2022).

At September 30, 2023, an amount of $1,877,534 ($3,184,866 at December 31, 2022) remains to be amortized until January 2027 related to the grant of stock options.

Share purchase warrants

The following table reflects the activity in warrants during the period ended September 30, 2023, and the number of issued and outstanding share purchase warrants at September 30, 2023:

	Number of warrants Dec 31, 2022	Issued	Number of warrants Sep 30, 2023	Exercise price per warrant $	Expiry date
Issuance of warrants – October 20, 2022	1,014,600	—	**1,014,600**	1.75	October 19, 2024
Issuance of warrants – March 8, 2023	—	5,000,000	**5,000,000**	1.25	March 7, 2025
Issuance of warrants – July 21, 2023	—	3,030,000	**3,030,000**	1.25	July 20, 2025
	1,014,600	**8,030,000**	**9,044,600**		

(In Canadian dollars)

15. Supplemental disclosure of cash flow information

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Accounts receivable	**(744,667)**	(4,582,692)	**6,122,943**	(6,148,838)
Costs and profits in excess of billings on uncompleted contracts	**210,070**	1,290,731	**61,753**	2,017,967
Inventory	**(36,538)**	(168,708)	**19,625**	(830,156)
Investment tax credits receivable	**(55,816)**	(44,424)	**(28,070)**	(59,475)
Income taxes receivable	**—**	(1,327)	**—**	115,868
Deposits	**47,100**	(189,942)	**(61,025)**	1,587,574
Contract assets & other assets	**(171,664)**	(139,005)	**(171,664)**	(139,005)
Prepaid expenses	**650,441**	748,120	**(783,859)**	(635,039)
Accounts payable and accrued liabilities	**(351,176)**	3,353,412	**(592,763)**	2,688,775
Billings in excess of costs and profits on uncompleted contracts	**3,144,078**	822,997	**1,213,990**	(2,037,125)
	2,691,828	1,089,162	**5,780,930**	(3,439,454)

16. Supplemental disclosure on statements of comprehensive loss

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Inventories recognized in cost of sales	**140,005**	212,830	**354,096**	626,972
Amortization of intangible assets	**221,752**	218,760	**665,256**	656,278
Depreciation of property and equipment	**158,500**	155,481	**476,871**	446,883
Depreciation of ROU assets	**182,251**	157,844	**503,604**	479,466
Employee benefits	**3,295,722**	3,200,123	**10,650,161**	8,902,215
Share-based payments	**653,902**	931,572	**2,383,004**	4,222,242
Awarded grants	**35,723**	43,012	**310,688**	137,523

(In Canadian dollars)

17. Net finance costs (income)

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Financial expenses				
Interest on term loans	**62**	1,435	**591**	3,038
Interest on lease liabilities	**80,515**	94,732	**267,504**	284,190
Interest on convertible debenture	**60,600**	—	**60,600**	—
Interest accretion on and revaluation of balance due on business combination[1]	**(19,131)**	43,222	**(2,118,745)**	170,310
Interest accretion on long term loans	**8,646**	—	**25,414**	—
Interest accretion on convertible debenture	**62,218**	—	**62,218**	—
Penalties and other interest expenses	**58,130**	83,404	**190,856**	144,181
	251,040	222,793	**(1,511,562)**	601,719
Financial income				
Accretion interest on royalty receivable	**(35,763)**	(39,099)	**(120,437)**	(78,012)
Net finance costs (income)	**215,277**	183,694	**(1,631,999)**	523,707

[1] In June 2023, the Company determined that a milestone related to the business combination would not be achieved and therefore, a reversal of the liability was recorded. In March 2023, the Company's Italian subsidiary and a customer agreed on the final acceptance of a contract, prior to final completion, as a result, the contract did not attain the agreed milestone in connection with the balance due on business combination, and a reversal of the liability was recorded.

18. Loss per share

The following table provides a reconciliation between the number of basic and fully diluted shares outstanding:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Weighted average number of common shares outstanding	**178,880,395**	170,621,448	**179,472,660**	170,292,829
Weighted average number of diluted shares outstanding	**178,880,395**	170,621,448	**179,472,660**	170,292,829
Number of anti-dilutive stock options and warrants excluded from fully diluted earnings per share calculation	**19,685,100**	9,438,000	**19,685,100**	9,438,000

19. Related party transactions

During the three and nine-month period ended September 30, 2023, the Company concluded the following transactions with related parties:

Rent and property taxes charged by a trust whose beneficiary is the controlling shareholder and CEO of the Company, for the three and nine-month periods ended September 30, 2023, amount to $101,244 and $251,477, respectively ($69,054 and $208,334 for the three and nine-month periods ended September 30, 2022, respectively).

These expenses are recorded in the captions *Cost of sales* and *services* and in *Selling, general* and *administrative* in the consolidated statements of comprehensive loss. As at September 30, 2023 the right-of-use asset and the lease liabilities amount to $682,488 and $745,853 respectively, ($799,090 and $881,635 respectively at December 31, 2022).

In June 2023, the terms and conditions of the lease agreement between the Company and the trust were modified, to adjust the base rent and duration. As a result, the ROU asset increased by $67,745, the lease liability increased by $48,023, and a reduction of expense of $19,722 was recorded in the statement of comprehensive loss.

A balance due to the controlling shareholder and CEO of the Company amounted to $587,018 at September 30, 2023 ($254,097 at December 31, 2022) and is included in accounts payable and accrued liabilities.

The Key Management Personnel of the Company, in accordance with IAS 24, are the members of the Board of Directors and certain officers. Total compensation to key management consisted of the following:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Salaries – key management	**357,396**	270,532	**1,019,867**	844,374
Pension contributions	**6,613**	4,961	**18,933**	15,641
Fees – Board of Directors	**40,700**	45,700	**140,552**	134,700
Share-based compensation – officers	**1,041,988**	958,519	**2,083,975**	1,771,433
Share-based compensation – Board of Directors	**402,046**	221,197	**804,092**	1,979,410
Other benefits – key management	**—**	7,897	**157,135**	21,935
Total compensation	**1,848,743**	1,508,806	**4,224,554**	4,767,493

20. Financial instruments

As part of its operations, the Company carries a number of financial instruments. It is management's opinion that the Company is not exposed to significant interest, currency or credit risks arising from these financial instruments except as otherwise disclosed. The Company's overall risk management program focuses on the unpredictability of the financial market and seeks to minimize potential adverse effects on the Company's financial performance. The Company does not use derivative financial instruments to hedge these risks.

Foreign currency risk

The Company enters into transactions denominated in US dollars for which the related revenues, expenses, accounts receivable and accounts payable and accrued liabilities balances are subject to exchange rate fluctuations.

As at September 30, 2023 and December 31, 2022 the Company's exposure to foreign exchange risk for amounts denominated in US dollars is as follows:

	September 30, 2023	December 31, 2022
	$	$
Cash	**461,795**	2,871,062
Accounts receivable	**11,540,479**	13,537,912
Accounts payable and accrued liabilities	**(1,378,332)**	(1,713,717)
Total	**10,623,942**	14,695,257

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

(In Canadian dollars)

Sensitivity analysis

At September 30, 2023, if the US dollar had changed by 10% against the Canadian dollar with all other variables held constant, the impact on pre-tax gain or loss and equity for the three-month period ended September 30, 2023 would have been $1,062,400.

Credit concentration

During the three-month period ended September 30, 2023, three customers accounted for 55%, (Q3, 2022 – one customer for 70%) of revenues from operations.

During the nine-month period ended September 30, 2023, two customers accounted for 46%, (Nine-month period ended September 30, 2022 – three customers for 57%) of revenues from operations.

	Three months ended September 30, 2023		Nine months ended September 30, 2023	
	Revenues	% of total revenues	Revenues	% of total revenues
	$	%	**$**	**%**
Customer 1	882,680	24	2,428,857	26
Customer 2	647,424	18	1,892,671	20
Customer 3	483,207	13	—	—
Total	**2,013,311**	**55**	**4,321,528**	**46**

At September 30, 2023, two customers accounted for 54% and 17%, respectively (December 31, 2022 – three customers for 56%, 16% and 11%, respectively) of the total trade accounts receivable with amounts owing to the Company of $14,351,751.55 (2022 - $18,894,727), representing the Company's major credit risk exposure. Credit concentration is determined based on customers representing 10% or more of total revenues and/or total accounts receivable.

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The maximum credit risk to which the Company is exposed as at September 30, 2023 represents the carrying amount of cash, accounts receivable (except sales tax receivable), costs and profits in excess of billings on uncompleted contracts, deposits and royalties receivable.

Cash is held with major reputable financial institutions.

Management has established a credit policy under which each new customer is analysed individually for creditworthiness before the Company's payment and delivery terms and conditions are offered. The Company's review could include reviewing external ratings, if they are available, financial statements, credit agency information, industry information and in some cases bank references. The Company's exposure to credit risk is mainly influenced by the individual characteristics of each customer. In monitoring customer credit risk, customers are identified according to their characteristics such as their geographic location, industry, trading history with the Company and existence of previous financial difficulties.

The Company does not generally require collateral or other security from customers on accounts receivable, however, the contract terms may include the possibility of recourse in the event of late payment. The Company believes that there is no unusual exposure associated with the collection of these receivables.

The credit risk associated with costs and profits in excess of billings on uncompleted contracts is similar to that of accounts receivable, as these amounts are accumulated and converted to accounts receivable as invoicing milestones are reached.

The royalties receivable are due from a company in which the Company has a strategic investments. The Company does not have collateral or other security associated with the collection of this receivable. The carrying amount of the royalties receivable have been discounted to reflect the time value of money and credit risk of the counterparty.

(In Canadian dollars)

The deposits are payments made to suppliers and entities from which the Company leases property. The Company does not have collateral or other security associated with the collection of these deposits. As at September 30, 2023 and December 31, 2022, no loss allowance has been recognized in connection with these deposits and the maximum exposure is the carrying amount of these deposits.

During the nine-month period ended September 30, 2023, and the year-end December 31, 2022, provisions for expected credit losses were recorded, however, the accounts provisioned by the loss are still subject to enforcement activity in order to collect the balances due.

Interest rate risk

Interest rate risk is the risk that the value of a financial instrument might be adversely affected by a change in interest rates. Changes in market interest rates may have an effect on the cash flows associated with some financial assets and liabilities, known as cash flow risk, and on the fair value of other financial assets or liabilities, known as price risk, and on the fair value of investments or liabilities, known as price risks. The Company is exposed to a risk of fair value on term loans and convertible debenture as those financial instruments bear interest at fixed rates and to cash flow risk from the variable interest rate of the bank indebtedness.

Price risk

Price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market price (other than those arising from foreign currency risk and interest risk), whether those changes are caused by factors specific to the individual financial instrument or its issuers or factors affecting all similar financial instruments traded in the market. The most significant exposure to the price risk for the Company arises from its investments in shares and warrants of public companies quoted on the TSX Venture Exchange. If equity prices had increased or decreased by 25% as at September 30, 2023, with all other variables held constant, the Company's investments would have increased or decreased respectively, by approximately $1,184,500 (December 31, 2022 - $1,841,484).

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivery of cash or another financial asset. The Company manages its liquidity risk by forecasting cash flows from operations and anticipating any investing and financing activities.

The following table summarizes the contractual amounts payable and maturities of financial liabilities and other liabilities at September 30, 2023:

	Carrying value	**Total contractual amount**	**Less than one year**	**2-3 years**	**4-5 years**	**Over 5 years**
	$	**$**	**$**	**$**	**$**	**$**
Bank indebtedness	271,726	271,726	271,726	—	—	—
Accounts payable and accrued liabilities[1]	8,116,256	8,116,256	8,116,256	—	—	—
Term loans	396,675	450,000	96,191	180,000	172,147	1,662
Balance due on business combination	1,689,030	1,860,020	1,860,020	—	—	—
Lease liabilities	5,234,239	6,195,191	2,976,241	1,040,296	229,332	1,949,322
Convertible debenture	2,531,587	3,588,699	1,191,660	1,411,784	985,255	—
	18,239,513	**20,481,892**	**14,512,094**	**2,632,080**	**1,386,734**	**1,950,984**

[1] Accounts payable and accrued liabilities exclude amounts which are not financial liabilities.

At September 30, 2023, the Company's Canadian subsidiary benefits from a line of credit of $500,000, of which $271,526 was drawn on this facility. The Italian subsidiary previously benefited from a 400,000 euro line of credit which was paid in full and extinguished in June 2023. The Canadian facility bears interest at a variable rate which is the bank's prime rate plus 1%, therefore, 8.2%. There are no imposed financial covenants on the credit facility.

(In Canadian dollars)

Fair value of financial instruments

The fair value represents the amount that would be received for the sale of an asset or paid for the transfer of a liability in an orderly transaction between market participants at the measurement date. The fair value estimates are calculated at a specific date taking into consideration assumptions regarding the amounts, the timing of estimated future cash flows and discount rates. Accordingly, due to its approximate and subjective nature, the fair value must not be interpreted as being realizable in an immediate settlement of the financial instruments.

There are three levels of fair value that reflect the significance of inputs used in determining fair values of financial instruments:

Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3 — inputs for the asset or liability that are not based on observable market data.

The fair values of cash, trade accounts receivable, other receivables, deposits, bank indebtedness, accounts payable and accrued liabilities approximate their carrying amounts due to their short-term maturities.

Investments in BGF and HPQ shares are valued at quoted market prices and are classified as Level 1.

Royalties receivable are discounted according to their corresponding agreements and are classified as Level 2.

Investments in HPQ warrants are valued using the Black-Scholes pricing model and are classified as Level 3 (Note 9).

The fair value of the term loans, the balance due on business combination and convertible debenture as at September 30, 2023 is determined using the discounted future cash flows method and management's estimates for market interest rates for similar issuances. As a result, their fair market values correspond to their carrying amount. The term loans and convertible debenture are classified as level 2 and the balance due on business combination as level 3.

The following table presents the variation of the balance due on business combination:

	$
Balance due on business combination at December 31, 2021 - Current and Non-Current	3,952,203
Disbursement	(217,778)
Interest accretion	173,350
Balance due on business combination at December 31, 2022 - Current and Non-Current	3,907,775
Disbursement	**(100,000)**
Interest accretion on and revaluation of balance due on business combination	**(2,118,745)**
Balance due on business combination at September 30, 2023 - Current and Non-Current	**1,689,030**

21. Contingent liabilities

The Company is currently a party to various legal proceedings. If management believes that a loss arising from these proceedings is probable and can reasonably be estimated, that amount of the loss is recorded. As additional information becomes available, any potential liability related to these proceedings is assessed and the estimates are revised, if necessary. Based on currently available information, management believes that the ultimate outcome of these proceedings, individually and in aggregate, will not have a material adverse effect on the Company's financial position or overall trends in results of operations.

The Company had received a government grant in prior years of approximately $800,000 to assist with the development of a new system of advanced waste treatment systems technology. The grant is potentially repayable at the rate of 3% of any consideration received as a result of the project, for which funding has been received, to a maximum of the actual grant received. This repayment provision will remain in effect until May 30, 2024. The Company abandoned the project in 2011 and accordingly, no amount is expected to be repaid.

In August 2023, the Autorité des marchés financiers (the "AMF") initiated administrative proceedings against Mr. P. Peter Pascali, President and CEO, Mr. Alan Curleigh, Chair of the Board of Directors, and the Company with the Tribunal administratif des marchés financiers. The allegations largely relate to a series of connected transactions that occurred in 2018. The administrative penalty sought by the AMF and attributable to the Company is $550,000. The Company remains of the view that the AMF's allegations are without merit.

22. Capital management

The Company's objectives in managing capital are:

a) To ensure sufficient liquidity to support its current operations and execute its business plan; and

b) To provide adequate return to the shareholders

The Company's primary objectives when managing capital is to ensure the Company continues as a going concern as well as to maintain optimal returns to shareholders and benefits for other stakeholders.

The Company currently funds these requirements from cash flows from operations and with financing arrangements with third parties and shareholders. The Company is not subject to any externally imposed capital requirements.

The Company monitors its working capital in order to meet its financial obligations. On September 30, 2023, the Company's working capital deficiency was $6,433,575 (working capital of $1,650,709 at December 31, 2022).

The management of capital includes shareholders' equity for a total amount of $6,122,689 and term loans of $396,675 and $2,531,587 convertible debenture (shareholders' equity and term loans of $16,868,927 and $389,987 respectively at December 31, 2022) as well as cash amounting to $873,498 ($3,445,649 at December 31, 2022).

There were no significant changes in the Company's approach during the current nine-month period and preceding fiscal year, however, in order to maintain or adjust the capital structure, the Company may issue new shares, sell portions of its strategic investment and periodically purchase its own shares on the open market.

(In Canadian dollars)

23. Segment information

The Company operates in one segment, based on financial information that is available and evaluated by the Company's Board of Directors. The Company's head office is located in Montreal, Quebec. The operations of the Company are located in three geographic areas: Canada, Italy and India.

Revenue by product line and revenues recognized by revenue recognition method are presented in Note 5.

The following is a summary of the Company's revenue from external customers, by geography:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	**2023**	2022
	$	$	**$**	$
Brazil	**3,085**	17,133	**17,745**	179,839
Canada	**1,503,245**	4,877,413	**4,926,808**	8,847,046
France	**93,935**	—	**146,774**	—
India	**135,916**	73,873	**412,414**	131,903
Israel	**(67,853)**	8,757	**(69,415)**	29,418
Italy[1]	**(6,421)**	25,191	**(381,286)**	1,236,222
Mexico	**(186)**	112,007	**58,680**	371,399
Netherlands	**34,542**	44,144	**65,777**	74,387
New Zealand	**104,784**	—	**360,075**	—
Poland	**4,736**	—	**30,356**	30,512
Saudi Arabia	**118,931**	(41,470)	**265,616**	1,035,755
United States of America	**1,760,620**	420,809	**3,475,314**	3,083,356
Vietnam	**—**	96,822	**7,574**	661,429
Other	**394**	23,104	**394**	30,461
	3,685,728	5,657,783	**9,316,826**	15,711,727

[1] In March 2023 revenue attributable to Italy was reduced following the agreement between the Company's Italian subsidiary and their customer to deliver a project prior to final completion, which resulted in an adjustment to revenue and to costs and profits in excess of billings on uncompleted contracts.

PyroGenesis Canada Inc.

Management's Discussion and Analysis

As at September 30, 2023 and for the three and nine-month periods ended September 30, 2023 and 2022
(Unaudited)

This management's discussion and analysis ("MD&A") is intended to assist readers in understanding the business environment, strategies, performance and risk factors of PyroGenesis Canada Inc. ("PyroGenesis", or the "Company"). The MD&A provides the reader with a view and analysis, from the perspective of management, of the Company's financial results for the three and nine-month periods ended September 30, 2023. The MD&A has been prepared in accordance with National Instrument 51-102, Continuous Disclosure Requirements, and should be read in conjunction with the audited consolidated financial statements and related notes thereto of the Company for the year ended December 31, 2022.

The condensed consolidated interim financial statements and MD&A have been reviewed by PyroGenesis' Audit Committee and were approved by its Board of Directors on November 9, 2023. The Board of Directors is responsible for ensuring that the Company fulfills its responsibilities for financial reporting and is ultimately responsible for reviewing and approving the MD&A. The Board of Directors carries out this responsibility principally through its Audit Committee. The Audit Committee is appointed by the Board of Directors and is comprised of independent directors. The Audit Committee reports its findings to the Board of Directors for its consideration when it approves the MD&A and financial statements for issuance to shareholders.

The following information takes into account all material events that took place up until November 9, 2023, the date on which the Company's Board of Directors approved this MD&A. Unless otherwise indicated, all amounts are presented in Canadian dollars. The Company's functional and reporting currency is the Canadian dollar.

Additional information regarding PyroGenesis is available on the System for Electronic Document Analysis and Retrieval ("SEDAR+") at www.sedarplus.ca, the Electronic Data Gathering, Analysis, and Retrieval system ("EDGAR") at www.sec.gov, and on the Company's website at www.pyrogenesis.com.

FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements and forward-looking information (collectively, "forward-looking statements") within the meaning of applicable securities legislation. All statements other than statements of historical fact contained in this MD&A are forward-looking statements, including, without limitation, the Company's statements regarding its products and services; relations with suppliers and clients; future financial position; business strategies; potential acquisitions; potential business partnering; litigation; and plans and objectives. In certain cases, forward-looking statements can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" and similar words or the negative thereof. Although management of the Company believes that the expectations represented in such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct.

In particular, this MD&A contains forward-looking statements that relate, but are not limited, to:

- the Company's business strategies, strategic objectives and growth strategy;
- the Company's current and future capital resources and the need for additional financing;
- the Company's ability to increase sales, including the results of the successful completion of the Company's current projects;
- management's expectation that the Company will achieve sustained annual growth and profitability, and that gross margins will increase resulting in a decrease in cost of sales as a percentage of revenue; and
- the Company's overall financial performance.

By their nature, forward-looking statements require assumptions and are subject to inherent risks and uncertainties including those discussed herein. In particular, forward-looking statements relating to future sales, growth and profitability are based on the assumption that current projects will be completed, and the Company will be awarded certain anticipated contracts pursuant to recent negotiations with, and statements made by, third parties. There is significant risk that predictions and other forward-looking statements will not prove to be accurate. Readers are cautioned to not place undue reliance on forward-looking statements made herein because a number of factors could cause actual future results, conditions, actions or events to differ materially from the targets, expectations, estimates or intentions expressed in the forward-looking statements.

Many factors could cause the Company's actual results, performance or achievements to be materially different from any future results, performance or achievements that may be expressed or implied by forward-looking statements, including, without limitation, risks and uncertainties relating to: the strength of the Canadian, US, European and Asian economies; operational, funding, and liquidity risks; unforeseen engineering and environmental problems; delays or inability to obtain required financing and/or anticipated contracts; risks associated with licenses, permits and regulatory approvals; supply interruptions or labour disputes; foreign exchange fluctuations and collection risk; competition from other suppliers, or alternative, less capital intensive, energy solutions; and risk factors described elsewhere under the heading "Risk Factors" in this MD&A and the Annual Information Form, and elsewhere in this MD&A and other filings that the Company has made and may make in the future with applicable securities regulatory authorities. We caution that the foregoing list of factors is not exhaustive, and that, when relying on forward-looking statements to make decisions with respect to the Company, investors and others should carefully consider these factors, as well as other uncertainties and potential events, and the inherent uncertainty of forward-looking statements.

Although the Company has attempted to identify significant factors that could cause actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Forward-looking statements are provided as of the date of this MD&A, and the Company assumes no obligation to update or revise such forward-looking statements to reflect new events or circumstances except as required under applicable securities laws.

The forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement. The forward-looking statements included in this MD&A are made as of the date of this MD&A or such other date specified herein.

BASIS OF PRESENTATION

For reporting purposes, we prepared the 2022 consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. The financial information contained in this MD&A was derived from the 2022 consolidated financial statements. Unless otherwise indicated, all references to "$" are to Canadian dollars. Unless otherwise indicated, all references to a specific "note" refer to the notes to the 2022 consolidated financial statements. Certain totals, subtotals and percentages throughout this MD&A may not reconcile due to rounding.

NON-IFRS MEASURES

This MD&A makes reference to certain non-IFRS measures. These measures are not recognized measures under IFRS and do not have a standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies. Rather, these measures are provided as additional information to complement those IFRS measures by providing further understanding of our results of operations from management's perspective. Accordingly, these measures should not be considered in isolation nor as a substitute for analysis of our financial information reported under IFRS.

We use non-IFRS measures, including EBITDA and Modified EBITDA, both of which are not considered an alternative to income or loss from operations, or to net earnings or loss, in the context of measuring a company's performance. EBITDA is used by management in order to facilitate operating performance comparisons from period to period, to prepare annual operating budgets and forecasts and to determine components of management compensation. Management believes that EBITDA is used by investors as it provides supplemental measures of operating performance and thus highlight trends in our business that may not otherwise be apparent when relying solely on IFRS measures, and to compare the results of our operations with other entities with similar structures. Modified EBITDA is used by management as it brings additional clarity to operating performance, and it eliminates variations in the fair value of strategic investments, among others, which may be beyond the control of the Company. Management believes that investors use Modified EBITDA for similar purposes as management and to evaluate performance while adjusting for non-cash discretionary expenses. Modified EBITDA allows a more appropriate comparison to other companies whose earnings or loss is not adjusted by fair value adjustments from strategic investments. The Company also uses "Backlog" or "Backlog of signed and/or awarded contracts" interchangeably, as a non-IFRS measure. Backlog figures allow management of the Company to foresee and predict their future needs and resource planning. Management believes that "Backlog" is used by investors to evaluate the Company, their future performance and better understand the production capacity.

EBITDA: We define EBITDA as net earnings before net financing costs, income taxes, depreciation and amortization. See "Results of Operations - Reconciliation of Non-IFRS measures (EBITDA and Modified EBITDA)".

Modified EBITDA: We define Modified EBITDA as EBITDA and adjust for non-cash items namely share-based payments expenses and changes in fair value of strategic investments. See "Results of Operations - Reconciliation of Non-IFRS measures (EBITDA and Modified EBITDA)".

Backlog or **Backlog of signed and/or awarded contracts:** This measure is defined as contracts with customers, firm purchase order and contracts agreed between us and the customer, whereby we can determine the proceeds and the obligations to perform.

OVERVIEW

PyroGenesis Canada Inc. is a leader in the design, development, manufacture and commercialization of advanced plasma processes. We provide engineering and manufacturing expertise, cutting-edge contract research, as well as turnkey process equipment packages to the defense, metallurgical, mining, additive manufacturing (including 3D printing), oil & gas, and environmental industries. With a team of experienced engineers, scientists and technicians working out of our Montreal office and our 40,902 sq. ft. (3,800 m²) and 31,632 sq. ft. (2,940 m²) manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. Our core competencies allow PyroGenesis to lead the way in providing innovative plasma torches, plasma waste processes, high-temperature metallurgical processes, and engineering services to the global marketplace. Our operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. Since our acquisition of Pyro Green-Gas Inc. (formerly AirScience Technologies Inc), we now offer technologies, equipment, and expertise in the area of biogas upgrading, and air pollution control. As a result, we have extended our presence to Italy and India, and this acquisition provides potential synergies with our current land-based waste destruction offerings. Our common shares are listed on the Toronto Stock Exchange (TSX) (Ticker Symbol: PYR), NASDAQ (Ticker Symbol: PYR) and the Frankfurt Stock Exchange (FSX) (Ticker symbol: 8PY). In October 2023, the Company notified the NASDAQ of its intention to voluntarily delist its common shares from NASDAQ, and the Company has also taken steps to have its Shares quoted on the OTCQX Best Market.

This MD&A includes the accounts of the Company, Pyro Green-Gas Inc (including the subsidiaries in Italy and India) as well as Drosrite International LLC ("Drosrite International). Drosrite International is owned by a member of the Company's management personnel and close family member of the Chief Executive Officer ("CEO") and controlling shareholder and is deemed for the purposes of the consolidated financial statements to be controlled by the Company. Unless otherwise stated, reference to subsidiaries in the consolidated financial statements and this MD&A shall include Drosrite International and/or Pyro Green-Gas Inc. All transactions and balances between the Company and its subsidiaries have been eliminated upon consolidation.

INFORMATION FROM CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS *(expressed in dollars)***:**

	Three months ended September 30			Nine months ended September 30		
	2023	2022	2021	**2023**	2022	2021
Revenues	**3,685,725**	5,657,783	9,317,926	**9,316,826**	15,711,726	23,863,001
Cost of sales and services	**2,586,333**	1,544,607	5,265,395	**6,579,046**	8,047,554	12,733,979
Gross profit	**1,099,392**	4,113,176	4,052,531	**2,737,780**	7,664,172	11,129,022
Expenses						
Selling, general and administrative (excluding share-based expenses)	**6,935,775**	4,979,916	4,227,937	**19,174,510**	14,393,149	10,402,921
Research and development, net	**680,889**	290,374	389,806	**1,746,790**	1,577,370	1,386,847
Total expenses (excluding share-based expenses)	**7,616,664**	5,270,290	4,617,743	**20,921,300**	15,970,519	11,789,768
Net loss from operations (excluding share-based expenses)	**(6,517,272)**	(1,157,114)	(565,212)	**(18,183,520)**	(8,306,347)	(660,746)
Share-based expenses	**(653,899)**	(931,572)	(673,194)	**(2,383,001)**	(4,222,242)	(4,884,219)
Net loss from operations	**(7,171,171)**	(2,088,686)	(1,238,406)	**(20,566,521)**	(12,528,589)	(5,544,965)
Changes in fair market value of strategic investments and net finance income (costs)	**942,879**	(1,986,171)	1,862,070	**1,850,884**	(8,627,294)	(10,480,673)
Income taxes	**—**	—	—	**—**	76,095	—
Net loss and comprehensive loss	**(6,228,292)**	(4,074,857)	623,664	**(18,715,637)**	(21,231,978)	(16,025,638)
Foreign currency translation gain (loss) on investments in foreign operations	**(28,000)**	21,151	—	**(31,980)**	69,622	—
Comprehensive loss	**(6,256,292)**	(4,053,706)	623,664	**(18,747,617)**	(21,162,356)	(16,025,638)
Loss per share						
Basic	**(0.03)**	(0.02)	—	**(0.10)**	(0.12)	(0.10)
Diluted	**(0.03)**	(0.02)	—	**(0.10)**	(0.12)	(0.10)
Modified EBITDA[1]	**(5,982,767)**	(603,878)	(227,001)	**(16,569,766)**	(6,050,221)	102,416

[1]See "Non-IFRS Measures"

SELECTED FINANCIAL INFORMATION *(expressed in dollars)*

	September 30, 2023	December 31, 2022	December 31, 2021
Current assets	**19,652,937**	27,448,182	42,119,879
Non-current assets	**17,189,664**	20,218,568	44,597,101
Total assets	**36,842,601**	47,666,750	86,716,980
Current liabilities	**26,086,512**	25,797,473	18,852,455
Non-current liabilities	**4,633,400**	5,000,350	6,620,330
Total liabilities	**30,719,912**	30,797,823	25,472,785
Shareholders' equity	**6,122,689**	16,868,927	61,244,195

FINANCIAL CONDITION *(expressed in dollars)*

	September 30, 2023	December 31, 2022	**Variation 2023 vs 2022**
Current Assets			
Cash	**873,498**	3,445,649	(2,572,151)
Accounts receivable	**12,339,329**	18,624,631	(6,285,302)
Costs and profits in excess of billings on uncompleted contracts	**989,544**	1,051,297	(61,753)
Inventory	**1,856,786**	1,876,411	(19,625)
Investment tax credits receivable	**304,474**	276,404	28,070
Income tax receivable	**16,280**	14,169	2,111
Current portion of deposits	**493,331**	432,550	60,781
Current portion of royalties receivable	**603,523**	455,556	147,967
Contract assets	**620,710**	499,912	120,798
Prepaid expenses	**1,555,462**	771,603	783,859
Total Current Assets	**19,652,937**	27,448,182	(7,795,245)
Non-Current assets			
Deposits	**46,297**	46,053	244
Strategic investments	**4,564,434**	6,242,634	(1,678,200)
Property and equipment	**2,985,371**	3,393,452	(408,081)
Right-of-use-assets	**4,382,885**	4,818,744	(435,859)
Royalties receivable	**924,699**	952,230	(27,531)
Intangible assets	**1,625,371**	2,104,848	(479,477)
Goodwill	**2,660,607**	2,660,607	—
Total Non-Current Assets	**17,189,664**	20,218,568	(3,028,904)
Current Liabilities			
Bank indebtedness	**271,726**	991,902	(720,176)
Accounts payable and accrued liabilities	**9,525,215**	10,115,870	(590,655)
Billings in excess of costs and profits on uncompleted contracts	**10,884,983**	9,670,993	1,213,990
Current portion of term loans	**96,191**	69,917	26,274
Current portion of lease liabilities	**2,790,926**	2,672,212	118,714
Balance due on business combination	**1,689,030**	2,088,977	(399,947)
Income tax payable	**186,457**	187,602	(1,145)
Current portion of convertible debenture	**641,984**	—	641,984
Total Current Liabilities	**26,086,512**	25,797,473	289,039
Non-current Liabilities			
Lease liabilities	**2,443,313**	2,861,482	(418,169)
Term loans	**300,484**	320,070	(19,586)
Balance due on business combination	**—**	1,818,798	(1,818,798)
Convertible debenture	**1,889,603**	—	1,889,603
Total Non-Current Liabilities	**4,633,400**	5,000,350	(366,950)

Working capital, (expressed as current assets less current liabilities) varied since December 31, 2022 by $7.4 million, mainly a result of:

- a decrease of cash of $2.6 million, explained in the section Summary of Cash Flows,
- a decrease of $6.3 million of accounts receivable, as the Company has collected the invoicing milestones on contracts in progress, as a result trade receivables decreased by $2.4 million, and a decrease in sales tax receivable of $0.1 million, and decrease of $3.8 million as a result of the increased allowance for expected credit loss,
- an increase of $0.1 million in current portion of royalties receivable due to accretion and amount carried forward from 2022,
- an increase of $0.1 million in contract assets due to an increase in commissions related to awarded contracts during the period,

- an increase of $0.8 million in prepaid expenses due to the prepayment of D&O insurance and software licenses,
- a decrease in bank indebtedness of $0.7 million due to the repayment of the credit facility by Pyro Green-Gas's Italian subsidiary and its Canadian subsidiary,
- a decrease of $0.6 million in accounts payable and accrued liabilities due to the increase in payments to suppliers,
- a decrease of $1.2 million in billings in excess of costs and profits on uncompleted contracts due to down payments received from recently awarded contracts, namely the SPARC™ land-based waste destruction system, the 4.5MW plasma torch system, the plasma torch for PFAS removal, and plasma-based PACWAD system for chemical warfare waste destruction,
- a decrease in balance due on business combination caused by a disbursement of an achieved milestone as well as recurring quarterly accretion and measurement of expected disbursements, and
- an increase in the current portion of the convertible debenture, issued in Q3, 2023.

Non-current assets varied since December 31, 2022, by $3.0 million, mainly a result of:

- a decrease in strategic investments is mainly attributable to the $1.7 million decrease in fair value of the common shares and warrants owned of HPQ Silicon Inc. and the net result of purchases and disposition of common share of HPQ Silicon Inc. during the nine months of 2023,
- a decrease of property and equipment of $0.4 million due to recurring quarterly depreciation,
- a decrease of $0.4 million in right-of-use-assets due to depreciation and leases approaching their maturity dates, and conditions of the lease agreement between the Company and the trust were modified, to adjust the base rent and duration and,
- a decrease of $0.5 million in intangible assets due to the amortization of the intangible asset from the 2021 business combination as well as the HP Torch and SPARC patents,

Non-current liabilities varied since December 31, 2022, by $0.3 million, mainly a result of:

- a repayment of lease liabilities and the decrease to the revaluation of the balance due on business combination as of September 30, 2023, as all milestones are schedule to be achieved within the next twelve months,
- an increase of $2.5 million due to the issuance of convertible debenture units in July 2023.

RESULTS OF OPERATIONS

Revenues *(expressed in dollars)*

PyroGenesis recorded revenue of $3.7 million in the third quarter of 2023 ("Q3, 2023"), representing a decrease of $2.0 million compared with $5.7 million recorded in the third quarter of 2022 ("Q3, 2022"). Revenue for the nine-month period ended September 30, 2023, was $9.3 million, a decrease of $6.4 million over revenue of $15.7 million compared to the same period in 2022.

Revenues recorded in the three and nine-months ended September 30, 2023, were generated primarily from:

	Three months ended September 30		**Variation 2023 vs**	**Nine months ended September 30**		**Variation 2023 vs**
	2023	2022	**2022**	**2023**	2022	**2022**
High purity metallurgical grade silicon & solar grade silicon from quartz (PUREVAP™)	**415,415**	4,243,138	(3,827,723)	**1,388,854**	5,617,942	(4,229,088)
Aluminium and zinc dross recovery (DROSRITE™)	**118,745**	71,431	47,314	**324,296**	1,408,048	(1,083,752)
Development and support related to systems supplied to the U.S. Navy	**1,003,592**	420,809	582,783	**2,168,820**	1,757,168	411,652
Torch-related products and services	**950,290**	684,997	265,293	**2,682,979**	3,307,150	(624,171)
Refrigerant destruction (SPARC™)	**104,784**	—	104,784	**360,075**	—	360,075
Biogas upgrading and pollution controls	**768,396**	89,698	678,698	**1,419,362**	3,260,850	(1,841,488)
Other sales and services	**324,503**	147,710	176,793	**972,440**	360,568	611,872
Revenue	**3,685,725**	5,657,783	(1,972,058)	**9,316,826**	15,711,726	(6,394,900)

Q3, 2023 revenues decreased by $2.0 million in comparison to Q3, 2022, mainly as a result of:

- PUREVAP™ related sales decreased by $3.9 million due to the completion of the project, with the Company announcing the successful silicon "pour" validating all critical milestones and with this achievement, the stage is set for discussions in transitioning to commercial production and due to the one-time $3.6 million sale of IP, in 2022, which was not repeated in the current quarter,
- Development and support related to systems supplied to the U.S. Navy related sales increased by $0.6 million due to the completion of several milestones and shipment of equipment,
- Torch-related products and services increased by $0.3 million, due to the three-month onsite support being extended by an additional three months and increased need of consumables and spare parts during operation,
- Biogas upgrading and pollution controls related sales increased by $0.7 million, specifically due to the project advancement of our regenerative thermal oxidizer system,

During the nine-month period ended September 30, 2023, revenues decreased by $6.4 million, mainly as a result of:

- PUREVAP™ related sales decreased by $4.2 million due to the completion of the project and initial phase of testing and one-time $3.6 million sale of IP, in 2022, which was not repeated in the current fiscal year,
- DROSRITE™ related sales decreased by $1.1 million due to the impact of the continued customer delays in funding for the construction of the onsite facility,
- Torch-related products and services decreased by $0.6 million, due to the final phase of the project being completed with the installation and commissioning at the customers facility. Three-month onsite support was extended by an additional three months,
- Biogas upgrading and pollution controls related sales decrease of $1.8 million is due to the delivery of and agreed completion of projects during the comparable period of the previous year.

As of November 9, 2023, revenue expected to be recognized in the future related to backlog of signed and/or awarded contracts is $35 million. Revenue will be recognized as the Company satisfies its performance obligations under long-term contracts, which is expected to occur over a maximum period of approximately 3 years.

Cost of Sales and Services *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs 2022**	**Nine months ended September 30**		**Variation 2023 vs 2022**
	2023	2022		**2023**	2022	
Employee compensation	**818,209**	949,443	(131,234)	**2,630,109**	2,653,898	(23,789)
Subcontracting	**(149,295)**	178,066	(327,361)	**130,006**	1,209,482	(1,079,476)
Direct materials	**1,533,877**	997,912	535,965	**2,445,296**	3,693,664	(1,248,368)
Manufacturing overhead & other	**197,656**	221,119	(23,463)	**788,783**	1,105,883	(317,100)
Foreign exchange charge on materials	—	(998,263)	998,263	—	(1,224,428)	1,224,428
Investment tax credits	**(35,866)**	(22,430)	(13,436)	**(80,404)**	(47,223)	(33,181)
Amortization of intangible assets	**221,752**	218,760	2,992	**665,256**	656,278	8,978
Total Cost of Sales and Services	**2,586,333**	1,544,607	1,041,726	**6,579,046**	8,047,554	(1,468,508)

Gross Profit *(expressed in dollars except for gross margin which is expressed as a percentage)*

	Three months ended September 30		**Nine months ended September 30**	
	2023	2022	**2023**	2022
Revenues	**3,685,725**	5,657,783	**9,316,826**	15,711,726
Cost of Sales and Services	**2,586,333**	1,544,607	**6,579,046**	8,047,554
Gross Profit	**1,099,392**	4,113,176	**2,737,780**	7,664,172
Gross Margin %	**30**	73	**29**	49

Cost of sales and services were $2.6 million in Q3 2023, representing an increase of $1.0 million compared to $1.5 million in Q3, 2022, primarily due to a decrease of $0.1 million in employee compensation, a decrease of $0.3 million in subcontracting, attributed to additional work being completed in-house and the reversal of subcontracting related to our work completed in Italy with our Italian subsidiary, an increase in direct materials of $0.5 million due to the purchasing of material related to newly awarded contract/projects, a decrease in manufacturing overhead & other and investment tax credits of $0.02 million and $0.01 million, respectively, and a decrease in foreign exchange on materials due to the reclassification of the expense from Cost of Sales and Services to Selling, General and Administrative expenses.

The gross margin for Q3, 2023 was $1.1 million or 30% of revenue compared to a gross margin of $4.1 million or 73% of revenue for Q3 2022, the decrease in gross margin was mainly attributable to the reduced sales volume generating less gross profit and to the impact on foreign exchange charge on materials, and more significantly, the $3.6 million sale of IP in 2022 which was not repeated in the current quarter, and had 100% gross margin profit.

During the nine-month period ended September 30, 2023, cost of sales and services were $6.6 million compared to $8.0 million for the same period in the prior year, the $1.5 million decrease is primarily due to a decrease of $1.1 million in subcontracting (nine-month period ended September 30, 2022 - $1.2 million), attributed to additional work being completed in-house, a decrease in direct materials and manufacturing overhead & other of $1.2 million and $0.3 million respectively (nine-month period ended September 30, 2022 - $3.7 million and $1.1 million respectively), due to lower levels of material required based on the decrease in product and service-related revenues and the negative impact of the foreign exchange charge on material of $1.2 million.

The amortization of intangible assets for Q3, 2023 was $0.2 million compared to $0.2 million for Q3, 2022, and during the nine-month period ended September 30, 2023, was $0.7 million compared to $0.7 million for the same period in the prior year. This expense relates mainly to the intangible assets in connection with the Pyro Green-Gas acquisition, patents and deferred development costs. These expenses are non-cash items, and the intangible assets will be amortized over the expected useful lives.

As a result of the type of contracts being executed, the nature of the project activity, as well as the composition of the cost of sales and services, as the mix between labour, materials and subcontracts may be significantly different. In addition, due to the nature of these long-term contracts, the Company has not necessarily passed on to the customer, the increased cost of sales which was attributable to inflation, if any. The costs of sales and services are in line with management's expectations and with the nature of the revenue.

Selling, General and Administrative Expenses *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs**	**Nine months ended September 30**		**Variation 2023 vs**
	2023	2022	**2022**	**2023**	2022	**2022**
Employee compensation	**2,091,152**	2,093,785	(2,633)	**7,177,266**	5,635,739	1,541,527
Share-based expenses	**653,899**	931,572	(277,673)	**2,383,004**	4,222,242	(1,839,238)
Professional fees	**823,677**	1,253,263	(429,586)	**3,055,241**	3,656,220	(600,979)
Office and general	**255,711**	242,357	13,354	**625,255**	699,446	(74,191)
Travel	**96,034**	95,605	429	**266,715**	203,267	63,448
Depreciation of property and equipment	**158,500**	155,481	3,019	**476,870**	446,883	29,987
Depreciation of ROU assets	**182,250**	157,844	24,406	**503,603**	479,466	24,137
Investment tax credits	**(7,500)**	(7,500)	—	**(22,500)**	(22,500)	—
Government grants	**(35,723)**	(43,012)	7,289	**(310,688)**	(137,523)	(173,165)
Other expenses	**815,558**	1,032,093	(216,535)	**2,484,876**	3,432,150	(947,274)
Foreign exchange charge on materials	**(214,304)**	—	(214,304)	**89,610**	—	89,610
Expected credit loss & bad debt	**2,770,420**	—	2,770,420	**4,828,259**	—	4,828,259
Total selling, general and administrative	**7,589,674**	5,911,488	1,678,186	**21,557,511**	18,615,390	2,942,121

Included within Selling, General and Administrative expenses ("SG&A") are costs associated with corporate administration, business development, project proposals, operations administration, investor relations and employee training.

SG&A expenses for Q3, 2023 were $7.6 million, representing an increase of $1.7 million compared to $5.9 million for Q3, 2022. The variation is mainly a result of the expected credit loss & bad debt provision increasing to $2.8 million in Q3, 2023, whereby no such expense was recorded in the comparable period. Furthermore, this was offset by a decrease in professional fees which are $0.8 million, thereby a decrease of $0.4 million (Q3, 2022 - $1.3 million), due to reduction in accounting fees, legal and investor relation, and patent expenses. Other expenses also decreased by $0.2 million (Q3, 2022 - $1.0 million) due to a net reduction of insurance expenses, and a favourable impact of $0.2 million on the foreign exchange charge on materials.

During the nine-month period ended September 30, 2023, SG&A expenses were $21.6 million, representing an increase of $2.9 million compared to $18.6 million for the same period in the prior year. The increase is mainly a result of employee compensation increasing to $7.2 million (nine-month period ended September 30, 2022 - $5.6 million) mainly caused by additional headcount. Expected credit loss & bad debt increased to $4.8 million and is due to an increase in the allowance for expected credit losses recognized in 2023, and the increase of the impact on foreign exchange charge on materials of $0.09 million, offset by the decreases of $0.6 million in professional fees, due to less legal, accounting and investor relation expenses, which are $3.1 million, compared to $3.7 million in the comparable period, and the decrease in other expenses, mainly related to the decrease of subcontracting and insurance expenses, to $2.5 million from $3.4 million, a variation of $0.9 million, compared to the nine-month period ended September 30, 2022.

Share-based compensation expense for the three and nine-month periods ended September 30, 2023, was $0.7 million and $2.4 million, respectively (three and nine-month period ended September 30, 2022 - $0.9 million and $4.2 million, respectively), a decrease of $0.3 million and $1.8 million respectively, which is a non-cash item and relates mainly to 2021, 2022 and 2023 grants.

Share-based payments expenses as explained above, are non-cash expenses and are directly impacted by the vesting structure of the stock option plan whereby options vest between 10% and up to 100% on the grant date and may require an immediate recognition of that cost.

Depreciation on Property and Equipment *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs**	**Nine months ended September 30**		**Variation 2023 vs**
	2023	2022	**2022**	**2023**	2022	**2022**
Depreciation of property and equipment	**158,500**	155,481	3,019	**476,871**	446,883	29,988

The depreciation on property and equipment for the three and nine-month periods ended September 30, 2023, remained stable at $0.2 million and $0.5 million, respectively, compared with $0.2 million and $0.4 million for the same periods in the prior year. The expense is determined by the nature and useful lives of the property and equipment being depreciated.

Research and Development ("R&D") Costs, net *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs 2022**	**Nine months ended September 30**		**Variation 2023 vs 2022**
	2023	2022		**2023**	2022	
Employee compensation	**386,361**	156,895	229,466	**842,786**	612,578	230,208
Investment tax credits	**(12,451)**	(14,493)	2,042	**(32,137)**	(46,134)	13,997
Subcontracting	**34,397**	7,410	26,987	**71,940**	91,437	(19,497)
Materials and equipment	**202,290**	129,926	72,364	**377,989**	744,920	(366,931)
Other expenses	**70,292**	10,636	59,656	**486,212**	174,569	311,643
Total net R&D expenses, net	**680,889**	290,374	390,515	**1,746,790**	1,577,370	169,420

During the three-months ended September 30, 2023, the Company incurred $0.7 million of R&D costs on internal projects, an increase of $0.4 million as compared with $0.3 million in Q3, 2022. The increase in Q3, 2023 is primarily related to an increase of $0.2 million in employee compensation to $0.4 million, due to an increase in R&D activities which required additional labour resources, compared to $0.2 million for the same period in the prior year, an increase in materials and equipment and other expenses, to $0.3 million (Q3, 2022 - $0.1 million), which is also attributable to the increase in employee compensation.

During the nine-months ended September 30, 2023, the Company incurred $1.7 million of R&D costs on internal projects, compared to $1.6 million for the same period in the prior year. The increase is mainly due to higher levels of R&D activities requiring additional resources and other expenses, increasing to $1.3 million as compared with $0.8 million, an increase of $0.5 million, which is offset by the decrease in material and equipment to $0.4 million compared to $0.7 million for the same period in the prior year.

In addition to internally funded R&D projects, the Company also incurred R&D expenditures during the execution of client funded projects. These expenses are eligible for Scientific Research and Experimental Development ("SR&ED") tax credits. SR&ED tax credits on client funded projects are applied against cost of sales and services (see "Cost of Sales" above).

Finance costs (income), net *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs 2022**	**Nine months ended September 30**		**Variation 2023 vs 2022**
	2023	2022		**2023**	2022	
Interest on term loans	**62**	1,435	(1,373)	**591**	3,038	(2,447)
Interest on lease liabilities	**80,515**	94,732	(14,217)	**267,504**	284,190	(16,686)
Interest on convertible debenture	**60,600**	—	60,600	**60,600**	—	60,600
Interest accretion on and revaluation of balance due on business combination	**(19,131)**	43,222	(62,353)	**(2,118,745)**	170,310	(2,289,055)
Interest accretion on long term loan	**8,646**	—	8,646	**25,414**	—	25,414
Interest accretion of convertible debenture	**62,218**	—	62,218	**62,218**	—	62,218
Penalties and other interest	**58,130**	83,404	(25,274)	**190,856**	144,181	46,675
Interest accretion of royalty receivable	**(35,763)**	(39,099)	3,336	**(120,437)**	(78,012)	(42,425)
Finance costs (income), net	**215,277**	183,694	31,583	**(1,631,999)**	523,707	(2,155,706)

Finance costs for Q3 2023 represent an expense of $0.2 million, representing an increase year-over-year of approximately $0.03 million. The increase in finance expenses in Q3 2023, is primarily due to the interest and accretion related to the convertible debenture offset by the interest accretion on and revaluation of balance due on business combination.

During the nine-month period ended September 30, 2023, the finance costs represent an income of $1.6 million as compared with an expense of $0.5 million for the 2022 comparable period, representing a favourable variation of $2.2 million year-over-year. The decrease in finance expenses is primarily due to the revaluation of balance due on business combination due to negotiations between the Company's Italian subsidiary and a customer who both agreed on the final acceptance of a contract, prior to final completion and the Company determined that a milestone related to the business combination would not be achieved. As a result, the contract did not attain the pre-determined milestone in connection with the balance due on business combination, and reversals of the liabilities were recorded.

Strategic Investments *(expressed in dollars)*

	Three months ended September 30		Variation 2023 vs	Nine months ended September 30		Variation 2023 vs
	2023	2022	**2022**	**2023**	2022	**2022**
Changes to fair value of strategic investments	**1,158,156**	(1,802,477)	2,960,633	**218,885**	(8,103,587)	8,322,472

During the three-months ended September 30, 2023, the adjustment to fair market value of strategic investments for Q3, 2023 resulted in a gain of $1.2 million compared to a loss in the amount of $1.8 million in Q3, 2022, a favorable variation of $3.0 million.

During the nine-months ended September 30, 2023, the adjustment to fair market value of strategic investments resulted in a gain of $0.2 million compared to a loss in the amount of $8.1 million for the same period in the prior year, a favorable variation of $8.3 million. The increase in gain for the three and nine-month periods ended September 30, 2023, is attributable to the variation of the market value of the common shares owned by the Company of HPQ Silicon Inc.

Comprehensive loss *(expressed in dollars)*

	Three months ended September 30		Variation 2023 vs	Nine months ended September 30		Variation 2023 vs
	2023	2022	**2022**	**2023**	2022	**2022**
Comprehensive loss	**(6,256,292)**	(4,053,706)	2,202,586	**(18,747,617)**	(21,162,355)	(2,414,738)

The comprehensive loss for Q3, 2023 of $6.3 million compared to a loss of $4.1 million, in Q3, 2022, represents a variation of $2.2 million, and is primarily attributable to the factors described above, which have been summarized as follows:

- a decrease in product and service-related revenue of $2.0 million arising in Q3, 2023,
- an increase in cost of sales and services of $1.0 million, primarily due to a decrease in employee compensation, subcontracting, and manufacturing overhead and other, offset by the increase in direct materials, foreign exchange charge on materials, and amortization of intangible assets,
- an increase in SG&A expenses of $1.7 million arising in Q3, 2023 primarily due to an increase in the allowance for credit loss of $2.8 million, offset by decreases in professional fees, other expenses, and foreign exchange charge on materials,
- a decrease in share-based expenses of $0.3 million,
- an increase in R&D expenses of $0.4 million primarily due to an increase in employee compensation, materials and equipment, and other expenses,
- an increase in finance costs of $0.03 million in Q3, 2023 primarily due to the interest and accretion on the convertible debenture and royalty receivable,
- a favourable variation in the fair market value of strategic investments of $3.0 million.

The comprehensive loss for the nine-month period ended September 30, 2023, of $18.7 million compared to a loss of $21.2 million, for the same period in the prior year, represents a variation of $2.4 million, and is primarily attributable to the factors described above, which have been summarized as follows:

- a decrease in product and service-related revenue of $6.4 million,
- a decrease in cost of sales and services of $1.5 million, primarily due to a decrease in employee compensation, subcontracting, direct materials, manufacturing overhead and other, and foreign exchange charge on materials, offset by the increase in investment tax credits, and amortization of intangible assets,
- an increase in SG&A expenses of $3.0 million was primarily due to an increase in employee compensation, travel, depreciation in property and equipment, depreciation of right-of-use assets, foreign exchange charge on materials, and the allowance for credit loss of $4.8 million which is offset by a decrease in professional fees, government grants, office and general, and other expenses,
- a decrease in share-based expenses of $1.8 million
- an increase in R&D expenses of $0.2 million primarily due to an increase in employee compensation, and other expenses and a decrease in subcontracting, materials, and equipment,
- a decrease in net finance costs (income) of $1.7 million is primarily due to the revaluation of balance due on business combination,
- a favourable variation in the fair market value of strategic investments of $8.3 million,

Reconciliation of Non-IFRS measures: EBITDA and Modified EBITDA *(expressed in dollars)*

	Three months ended September 30		**Variation 2023 vs**	**Nine months ended September 30**		**Variation 2023 vs**
	2023	2022	**2022**	**2023**	2022	**2022**
Comprehensive loss	**(6,256,292)**	(4,053,706)	2,202,586	**(18,747,617)**	(21,162,356)	(2,414,739)
Depreciation of property and equipment	**158,500**	155,481	3,019	**476,871**	446,883	29,988
Depreciation of ROU assets	**182,251**	157,844	24,407	**503,604**	479,466	24,138
Amortization of intangible assets	**221,752**	218,760	2,992	**665,256**	656,278	8,978
Finance costs (income), net	**215,277**	183,694	31,583	**(1,631,999)**	523,707	(2,155,706)
Income taxes	**—**	—	—	**—**	76,095	(76,095)
EBITDA(1)	**(5,478,512)**	(3,337,927)	2,140,585	**(18,733,885)**	(18,979,927)	(246,042)
Other non-cash items:						
Share-based expenses	**653,902**	931,572	(277,670)	**2,383,004**	4,222,242	(1,839,238)
Change in fair value of investments	**(1,158,156)**	1,802,477	2,960,633	**(218,885)**	8,103,587	8,322,472
Modified EBITDA (1)	**(5,982,767)**	(603,878)	5,378,889	**(16,569,766)**	(6,654,098)	9,915,668

¹ See "Non-IFRS Measures"

The EBITDA in Q3, 2023 was a $5.5 million loss compared to an EBITDA loss of $3.3 million for Q3, 2022, representing a variation of $2.1 million year-over-year. The variation in the EBITDA in the three-months ended September 30, 2023, compared to September 30, 2022, is due mainly to the increase in comprehensive loss of $2.2 million, and slight increase in depreciation of property and equipment, depreciation on right-of-use assets, amortization of intangible assets, and in net finance costs of $0.1 million.

The Modified EBITDA in Q3, 2023 was a $6.0 million loss compared to a Modified EBITDA loss of $0.6 million for Q3, 2022, representing an increased loss of $5.4 million. The increase in the Modified EBITDA loss in Q3, 2023 is attributable to the increase as mentioned above in the EBITDA of $2.1 million, a decrease in share-based expenses of $0.3 million offset by the favourable variation in the change of fair value of investments of $3.0 million, based on the fair value of such investment.

The EBITDA during the nine-month period ended September 30, 2023, was a $18.7 million loss compared to an EBITDA loss of $19.0 million, representing a variation of $0.2 million year-over-year. The variation in the EBITDA in the nine-months ended September 30, 2023, compared to September 30, 2022, is due to the decrease in comprehensive loss of $2.4 million, an increase in depreciation of property and equipment, depreciation of right-of-use assets, an increase in amortization of intangible assets, a decrease in net finance costs (income) of $2.2 million and a decrease in income taxes of $0.08 million.

The Modified EBITDA during the nine-month period ended September 30, 2023, was a $16.6 million loss compared to a Modified EBITDA loss of $6.7 million, representing an increased loss of $9.9 million. The increase in the Modified EBITDA loss is attributable to the decrease as mentioned above in the EBITDA of $0.2 million and a decrease in share-based expenses of $1.8 million and an increase in the change of fair value of investments of $8.3 million, based on the fair value of such investment.

SUMMARY OF QUARTERLY RESULTS *(expressed in dollars)*

		2023			2022			2021
	Q3	**Q2**	**Q1**	Q4	Q3	Q2	Q1	Q4
Revenues	**3,685,725**	**3,039,479**	**2,591,622**	3,301,777	5,657,783	5,847,180	4,206,762	7,205,349
Gross profit	**1,099,392**	**1,927,664**	**526,573**	479,715	4,113,176	2,499,273	1,051,723	1,302,789
Gross margin	**30.0**	**63.0**	**20.3**	14.5	72.7	42.7	25.0	18.1
Comprehensive income (loss)	**(6,256,292)**	**(6,333,708)**	**(6,157,620)**	(10,818,755)	(4,053,706)	(13,039,531)	(4,069,119)	(22,402,857)
Earnings (loss) per share								
Basic	**(0.03)**	**(0.04)**	**(0.03)**	(0.06)	(0.02)	(0.08)	(0.02)	(0.13)
Diluted	**(0.03)**	**(0.04)**	**(0.03)**	(0.06)	(0.02)	(0.08)	(0.02)	(0.13)

The majority of PyroGenesis' revenue is recognised over the time of the contract and is dependent on the timing of project initiation and execution, including project engineering, manufacturing, and testing.

LIQUIDITY AND CAPITAL RESOURCES

As at September 30, 2023, the Company had cash of $0.9 million, included in the net working capital deficiency of $6.4 million. Certain working capital items such as billings in excess of costs and profits on uncompleted contracts do not represent a direct outflow of cash. The Company expects that with its cash, liquidity position, the proceeds available from the strategic investment and access to capital markets it will be able to finance its operations for the foreseeable future.

The Company's term loan balance at September 30, 2023 was $396,675, and varied only slightly since December 31, 2022. The increase from January 1, 2022, to December 31, 2022, was mainly attributable to the additional proceeds received on the Economic Development Agency of Canada loan, which is interest free and will remain so, until the balance is paid over the 60-month period ending March 2029. During the three-month period ended September 30, 2023, the Company issued convertible debenture units for gross proceeds of $3,030,000, and bear interest at 10%. The average interest expense on the other term loans and convertible debenture is approximately 10%. The Company does not expect changes to the structure of term loans in the next twelve-month period. The Company maintained one credit facility which bears interest at a variable rate of prime plus 1%, therefore 8.20% at September 30, 2023. The Company continued to reimburse a portion of the existing credit facility during Q3 2023.

	Carrying Value	Total contractual amount	Less than one year	2-3 years	4-5 years	Over 5 years
Bank indebtedness	271,726	271,726	271,726	—	—	—
Accounts payable and accrued liabilities[1]	8,116,256	8,116,256	8,116,256	—	—	—
Term loans	396,675	450,000	96,191	180,000	172,147	1,662
Balance due on business combination	1,689,030	1,860,020	1,860,020	—	—	—
Lease liabilities	5,234,239	6,195,191	2,976,241	1,040,296	229,332	1,949,322
Convertible debenture	2,531,587	3,588,699	1,191,660	1,411,784	985,255	—
	18,239,513	**20,481,892**	**14,512,094**	**2,632,080**	**1,386,734**	**1,950,984**

[1] Accounts payable and accrued liabilities exclude amounts which are not financial liabilities.

SUMMARY OF CASH FLOWS *(expressed in dollars)*

	Three months ended September 30		Nine months ended September 30	
	2023	2022	**2023**	2022
Cash provided / (used) in operating activities	**(3,273,118)**	587,083	**(10,724,969)**	(9,902,841)
Cash provided / (used) by investing activities	**712,003**	649,625	**1,574,773**	(256,722)
Cash provided / (used) by financing activities	**2,598,162**	(184,148)	**6,592,194**	294,691
Effect of exchange rate changes on cash denominated in foreign currency	**6,868**	20,793	**(14,149)**	27,040
Decrease in cash	**43,915**	1,073,353	**(2,572,151)**	(9,837,832)
Cash - end of period	**873,498**	2,364,861	**873,498**	2,364,861

During the three-months ended September 30, 2023, cash flow used in operating activities was $3.3 million compared with cash flows provided by operating activities of $0.6 million in the same period of the previous year. The use of cash during Q3, 2023, consists of the net loss of $6.2 million (Q3, 2022 – net loss of $4.1 million) plus adjustments for operating activities of $0.3 million (Q3, 2022 - $3.6 million), including a net change in non-cash operating working capital items of $2.7 million (Q3, 2022 – net change of $1.1 million). The variation is due to the net loss and to the increase in customer deposits received and recognized in *Billings in excess of costs and profits on uncompleted contracts*.

Investing activities resulted in a net source of funds of $0.7 million in Q3, 2023, compared to a net source of funds of $0.6 million in Q3, 2022. This was caused by an increase in the proceeds received from the disposals of strategic investments, fewer additions to property and equipment, offset by a slight increase in additions to intangible assets.

Financing activities in Q3, 2023, resulted in a net source of funds of $2.6 million, compared to a use of funds of $0.2 million for the same period in 2022. In Q3, 2023, the net source of funds was mainly due to the proceeds from the issuance of convertible debenture units. The favourable variation of cash provided by financing activities was also a result of a decrease in repayments of credit facilities, interest, and lease liabilities, offset by the proceeds received in Q3 2022 related to the exercise of stock options which did not recur in Q3 2023.

As a result, the net cash position of the Company increased by $0.04 million during the three-month period ended September 30, 2023, compared to an increase of $1.1 million for the same period of the previous year.

During the nine-months ended September 30, 2023, cash flow used by operating activities was $10.7 million compared to $9.9 million in the same period of the previous year. The use of cash consists of the net loss of $18.7 million (2022 – net loss of $21.2 million) plus adjustments for operating activities of $2.2 million (nine-month period ended September 30, 2022 - $14.8 million), including a net change in non-cash operating working capital items of $5.8 million (2022 – net change of $3.4 million). The variation is due to the reduction of the net loss and significantly impacted by the collection of accounts receivable and customer deposits received and recognized in *Billings in excess of costs and profits on uncompleted contracts*.
Investing activities resulted in a net source of funds of $1.6 million compared to a use of funds of $0.3 million, and mainly due to a reduction in purchases of strategic investments and fewer additions to property and equipment, offset by greater additions to ROU assets and intangible assets and a decrease in disposal of common shares of HPQ Silicon Inc.

Financing activities resulted in a net source of funds of $6.6 million during the nine-month period ended September 30, 2023, compared with a net source of funds of $0.3 million for the same period in 2022. The Company issued common shares in connection with a private placement and with an issuance of convertible debenture units for net cash proceeds of $7.9 million. In addition, the Company repaid loans and lease liabilities totaling $0.3 million as well as $0.1 million of the balance due on the business combination. These were offset by the repayment of credit facilities for an amount of $0.7 million during the current nine-month period.

During the nine-month period ended September 30, 2023, the net cash position of the Company decreased by $2.6 million compared to a decrease of $9.8 million for the same period in the prior year.

USE OF PROCEEDS FROM FINANCINGS

Description of intended use of funds from financings in the past 12 months	**Proposed use of proceeds from financings completed in the past 12 months**		**Use of funds to Date**
October 19, 2022: Private Placement for total gross proceeds of $1,318,980	Proceeds were intended and used for working capital and general corporate purposes	$	1,318,980
March 8, 2023: Private Placement for total gross proceeds of $5,000,000	Proceeds were intended and used for working capital and general corporate purposes	$	5,000,000
July 21, 2023: Private Placement of Convertible Debenture Units for total gross proceeds of $3,030,000	Proceeds were intended and used for working capital and general corporate purposes	$	3,030,000

CAPITAL STOCK INFORMATION

The authorized share capital of the Company consists of an unlimited number of common shares. As at November 9, 2023 PyroGenesis had 178,880,395 Common Shares, 9,044,600 share purchase warrants, 51,243 broker warrants which entitles the holder to acquire one broker unit (each broker unit consist of one common share and one warrant), 10,820,500 outstanding stock options issued, and 7,983,500 exercisable options issued.

GOING CONCERN

These condensed consolidated financial statements have been prepared on the going concern basis, which presumes that the Company will be able to continue its operations for the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

The Company is subject to certain risks and uncertainty associated with the achievement of profitable operations such as the successful signing and delivery of contracts and access to adequate financing.

The Company has incurred, in the last years, operating losses and negative cash flows from operations, and as a result, the Company has an accumulated deficit of $112,100,495 as at September 30, 2023 ($93,384,858 as at December 31, 2022). Furthermore, there have been unexpected delays in the collection of certain accounts receivable from contracts closed in a prior year. This has resulted in a shortfall in cash flows from operating activities that would be used in funding the Company's operations.

As at September 30, 2023, the Company has working capital deficiency of $6,433,575 (working capital of $1,650,709 as at December 31, 2022) including cash of $873,498 ($3,445,649 as at December 31, 2022). The working capital is net of an allowance for credit losses amounting to $9,073,840 ($5,023,283 as at December 31, 2021) as further described in notes 6 and 7. The Company's business plan is dependent upon the successful completion of contracts and also the receipt of payments from certain contracts closed in a prior year and expects these payments to be made during fiscal 2023, as well as the achievement of profitable operations through the signing, completion and delivery of additional contracts or a reduction in certain operating expenses. In the absence of this, the Company is dependent upon raising additional funds to finance operations within and beyond the next twelve months. The Company has been successful in securing financing in the past and has relied upon external financing to fund its operations, primarily through the issuance of equity, debt and convertible debentures. The Company completed a private placement in October 2022 for an amount of $1,318,980 and also completed another private placement in March 2023 for net proceeds of $4,960,483 (see note 13). In addition, in July 2023, the Company also completed a brokered private placement of convertible debenture units for gross proceeds of $3,030,000 (note 14). While the Company has been successful in securing financing, raising additional funds is dependent on a number of factors, some of which are outside the Company's control, and therefore there is no assurance that it will be able to do so in the future or that these sources will be available to the Company or that they will be available on terms which are acceptable to the Company. These conditions indicate the existence of a material uncertainty that may cast significant doubt about the Company's ability to continue operating as a going concern.

The condensed consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and to classifications of the assets and liabilities that might be necessary should the Company be unable to achieve its plan and continue in business. If the going concern assumption were not appropriate, adjustments, which could be material, would be necessary to the carrying value of assets and liabilities, the reported expenses, and the classification of items on the consolidated statement of financial position.

RELATED PARTY TRANSACTIONS

During the three and nine-month period ended September 30, 2023, the Company concluded the following transactions with related parties:

Rent and property taxes charged by a trust whose beneficiary is the controlling shareholder and CEO of the Company, for the three and nine-month periods ended September 30, 2023, amount to $101,244 and $251,477, respectively ($69,054 and $208,334 for the three and nine-month periods ended September 30, 2022, respectively).

These expenses are recorded in the captions *Cost of sales and services* and in *Selling, general and administrative* in the consolidated statements of comprehensive loss. As at September 30, 2023 the right-of-use asset and the lease liabilities amount to $682,488 and $745,853 respectively, ($799,090 and $881,635 respectively at December 31, 2022).

In June 2023, the terms and conditions of the lease agreement between the Company and the trust were modified, to adjust the base rent and duration. As a result, the ROU asset increased by $67,745, the lease liability increased by $48,023, and a reduction of expense of $19,722 was recorded in the statement of comprehensive loss.

A balance due to the controlling shareholder and CEO of the Company amounted to $587,018 at September 30, 2023 ($254,097 at December 31, 2022) and is included in accounts payable and accrued liabilities.

The Key Management Personnel of the Company, in accordance with IAS 24, are the members of the Board of Directors and certain officers. Total compensation to key management consisted of the following as expressed in Canadian dollars:

	Three months ended September 30		**Variation 2023 vs 2022**	**Nine months ended September 30**		**Variation 2023 vs 2022**
	2023	2022		**2023**	2022	
Salaries - key management	**357,396**	270,532	86,864	**1,019,867**	844,374	175,493
Pension contributions	**6,613**	4,961	1,652	**18,933**	15,641	3,292
Fees - Board of Directors	**40,700**	45,700	(5,000)	**140,552**	134,700	5,852
Share-based compensation - officers	**1,041,988**	958,519	83,469	**2,083,975**	1,771,433	312,542
Share-based compensation - Board of Directors	**402,046**	221,197	180,849	**804,092**	1,979,410	(1,175,318)
Other benefits - key management	**—**	7,897	(7,897)	**157,135**	21,935	135,200
Total compensation	**1,848,743**	1,508,806	339,937	**4,224,554**	4,767,493	(542,939)

CORPORATE HIGHLIGHTS

On January 10, 2023, PyroGenesis announced signed a $6.0 million contract with advanced materials firm to supply SPARC™ land-based waste destruction system.

On January 12, 2023, PyroGenesis announced an "Energy Transition" contract with a major European multinational chemical and energy conglomerate.

On January 17, 2023, PyroGenesis announced signed emissions reduction contract with North American lithium-ion battery recycler.

On January 24, 2023, PyroGenesis announced the approval of NexGen™ facility by global aerospace client for 3D metal powder production.

On January 24, 2023, PyroGenesis confirms receipt of milestone payments from client B.

On March 8, 2023, PyroGenesis announced that it has completed a non-brokered private placement consisting of the issuance and sale of 5,000,000 units of the Corporation at a price of $1.00 per unit, for gross proceeds of $5.0 million to the Company. Each unit consisted of one Common Share and one warrant entitling the holder thereof to purchase one Common Share at a price of $1.25 until March 7, 2025.

On March 21, 2023, PyroGenesis received $0.7 million purchase order for three plasma torches.

On May 3, 2023, PyroGenesis announced that its subsidiary, Pyro Green-Gas Inc had successfully completed the Integrated Cold Test under a previously announced $9.3 million project with a key client, one of the world's top diversified steel producers.

On May 18, 2023, PyroGenesis announced receipt of $2.0 million payment under existing DROSRITE™ contract.

On May 30, 2023, PyroGenesis signed breakthrough contract for first commercial by-the-tonne order for titanium metal powder for 3D printing.

On June 1, 2023, PyroGenesis announced important achievement in silicon production process for HPQ Silicon using PyroGenesis' PUREVAP™ quartz reduction reactor.

On June 22, 2023, PyroGenesis signed two contracts with Aluminerie Alouette for $2.7 million.

On July 21, 2023, PyroGenesis announced closing of brokered private placement of convertible debenture units, including participation by the CEO.

On August 1, 2023, PyroGenesis signed $4.1 million contract for 4.5MW Plasma Torch System with Aeronautics and Defense client.

On August 22, 2023, PyroGenesis confirmed receipt of $826,000 down payment for 4.5MW High Power Plasma Torch System.

On August 24, 2023, PyroGenesis confirmed receipt of $445,200 Milestone Payment for SPARC™ Land-Based Waste Destruction System.

On September 12, 2023, PyroGenesis signed $2.25 Million Plasma Torch Contract for PFAS removal.

On September 19, 2023, PyroGenesis signed initial order with Global Aerospace firm for "coarse cut" Titanium Metal Powder for 3D printing.

On October 11, 2023, PyroGenesis announced successful silicon "Pour" validating all critical milestones from the Purevap Quartz Reduction Reactor (QRR).

On October 24, 2023, PyroGenesis announced $360,000 initial contract for a Plasma-Based PACWAD System for chemical warfare waste destruction.

CRITICAL ACCOUNTING ESTIMATES, NEW AND FUTURE ACCOUNTING POLICIES AND FINANCIAL INSTRUMENTS

For a discussion of significant accounting policies, judgements, estimates assumptions and financial instruments, please refer to notes 4, 5 and 28 of the 2022 consolidated Financial Statements.

CONTROLS AND PROCEDURES

The Company's shares are traded on the Toronto Stock Exchange ("TSX") since November 2020 and on the NASDAQ since March 2021. Prior to November 2020, the Company's shares traded on the TSX Venture Exchange ("TSXV"), and all requirements of the TSXV were attainted by the Company. The Company acknowledged that being listed on the TSX, and NASDAQ would require more stringent disclosure controls, and started implementing such before the NASDAQ listing.

As a result of the graduation to the TSX and NASDAQ, the Company became subject to additional requirements under applicable securities laws relating to the establishment and maintenance of disclosure controls and procedures ("DC&P") and internal control over financial reporting ("ICFR"), as defined in NI 52-109 and the applicable rules of the U.S. Securities and Exchange Commission. Such requirements also include the assessment and evaluation of both DC&P and ICFR, which was not required while the Company was listed on the TSXV. Consequently, the Company continues to take several actions to improve its DC&P and ICFR, in accordance with the thresholds provided by the regulators. The Company is currently implementing measures designed to improve its ICFR environment and remediate the control deficiencies that led to the material weaknesses identified below.

In accordance with the provisions of National Instrument 52-109 – Issuers' annual and interim filings ("NI 52-109") adopted by Canadian securities regulators and in Rule 13a-15(e) and 15d-15(e) under the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Company has filed certificates signed by the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") that report on, among other items, i) their responsibility for establishing and maintaining DC&P and ICFR for the Company, ii) the design of DC&P and the design of ICFR, and the effectiveness of DC&P and ICFR.

Disclosure controls and procedures

The Company under the supervision of the CEO and CFO, have designed DC&P (as defined in NI-52-109 and Rule 13a-15(e) and 15d-15(e) under the Exchange Act), in order to provide reasonable assurance that:

- material information relating to the Company is made known to the CEO and CFO by others; and
- information required to be disclosed by the Company in its filings, under applicable securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation.

As of December 31, 2022, an evaluation was carried out under the supervision of the CEO and CFO, of the design and operating effectiveness of the Company's DC&P. Based on this evaluation, the CEO and CFO concluded that presence of material weaknesses in our ICFR as described below in Management's Report on Internal Controls over Financial Reporting at December 31, 2022.

Management's Annual Report on Internal Controls over Financial Reporting

The Company under the supervision of the CEO and CFO, are responsible to design ICFR (as defined in NI-52-109 and Rules 13a-15(f) and 15d-15(f) under the Exchange Act) in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with IFRS as issued by the IASB.

As of December 31, 2022, an evaluation was carried out, under the supervision of the CEO and the CFO, of the effectiveness of the Company's ICFR. Based on this evaluation, the CEO and the CFO concluded that material weaknesses exist, as described below, and summarised the conclusion below. The control framework used to design and evaluate effectiveness of the Company's ICFR is established under the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) on Internal Control – Integrated Framework (2013 framework). A material weakness is a deficiency, or combination of deficiencies, in ICFR, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim consolidated financial statements will not be prevented or detected on a timely basis.

In connection with the Company's evaluation of ICFR, the following are the control deficiencies that were considered to be material weaknesses in the current quarter and in fiscal 2022 and any remediation that occurred up to September 30, 2023:

- **Control environment:** The Company did not maintain an effective control environment and has identified deficiencies relating to appropriate organizational structure and authority and responsibilities. The Company did not have a sufficient number of trained resources with the appropriate skills and knowledge with assigned responsibilities and accountability for the design and operation of ICFR and for holding individuals accountable for their internal control-related responsibilities.

  Nonetheless, as of September 30, 2023 there has been significant improvements related to the control environment over reporting lines as well as authority and responsibilities have also improved with the implementation of additional controls. Oversight and governance of financial reporting and related party transactions, including the oversight executed by Board of Directors and the Audit Committee was not indicative of a control environment deficiency. The Company has financial reporting resources internally, or at their disposal to ensure they can deal with complex accounting matters, as well as period-end controls to mitigate the risk of misstatement in the financial information.

- **Control activities:** The Company did not fully design and implement effective control activities and has identified deficiencies relating to: (i) selecting and developing control activities that contribute to the mitigation of risks to acceptable levels, and (ii) deploying control activities through policies that establish what is expected and procedures that put policies into action.

  As of September 30, 2023 the Company can affirm that numerous internal controls were added, including compensating controls to mitigate these risks, as well as adding additional levels of review and approval in order to reduce the risk related to control activities thereby improving the quality and reliability of financial information.

- **Journal Entries:** The Company did not effectively design and maintain appropriate segregation of duties and controls over the effective preparation, review and approval, and associated documentation of journal entries, across its ERP platform. The Company did not have adequate review procedures for the recording of manual entries.

  As of September 30, 2023, the Company has modified their processes to ensure that journal entries are sufficiently reviewed and approved, supporting analysis is approved and compensating controls exist to ensure the financial information is free of misstatement.

- **Complex Spreadsheet Controls:** The Company did not implement and maintain effective controls surrounding certain complex spreadsheets, including addressing all identified risks associated with manual data entry, completeness of data entry, and the accuracy of mathematical formulas, impacting complex spreadsheets used in fixed asset continuity schedules, production and revenue forecasting, and the calculation of the fair value of investments.

  As of September 30, 2023, the Company has significantly improved the safeguarding of spreadsheets and data, through the addition of various controls, password protections, limiting access, and improved segregation of duties with the objective of reducing the possibility of error.

- **User Access Controls:** The Company did not maintain effective user access controls to adequately restrict user access to financial applications and related data in accordance with job responsibilities.

  Throughout the nine-month period ended September 30, 2023, the Company has continued to implement controls to limit the access to financial and non-financial applications, based on employee profile. The Company continues to implement IT environment best practices for access controls, including prompt changes, access limitation to appropriate users and systematic periodic reviews of account privileges. Automated access controls are being integrated into the new ERP system, which is expected for mid-2024.

As a consequence, the Company did not have effective control activities related to the design, implementation and operation of process-level and management review control activities related to order-to-cash (including revenue trade receivables, and billings in excess of cost/cost in excess of billings), procure-to-pay (including operating expenses, prepaid expenses, accounts payable, and accrued liabilities), hire-to-pay (including compensation expense and accrued liabilities), long-lived assets, significant unusual transactions, related party transactions and other financial reporting processes for the entire year.

Aside from these material weaknesses, management has concluded that the Company's consolidated financial statements as at and for the period ended September 30, 2023, present fairly, in all material respects, the Company's financial position, results of operations, changes in shareholders' equity and cash flows in accordance with IFRS as issued by the IASB. There were no material adjustments to the Company's consolidated financial statements for the period ended September 30, 2023, and there were no changes to previously released financial results. However, because the deficiencies and material weaknesses create a reasonable possibility that a material misstatement to our consolidated financial statements would not be prevented or detected on a timely basis, the CEO and CFO concluded that as of December 31, 2022, the Company's design and operation of ICFR and DC&P were not effective.

Management's Ongoing Remediation Measures

During 2022, the 2023 quarters and beyond, management initiated and continues to implement remediation measures as outlined above, in the 2022 annual MD&A as well as the past quarterly MD&A's. Management has performed an initial risk assessment using a top-down, risk-based approach with respect to the risks of material misstatement of the consolidated financial statements. In addition, compensating controls have been applied to the areas where the risks of material misstatement are considered moderate to high, as throughout the various accounting cycles. The Company is using and plans to continue to use outside resources to strengthen the business process documentation and help with management's self-assessment and testing of internal controls. In 2023, the Company's management, with oversight of the Audit Committee expects to advance the documenting, testing, and refining the internal controls, in addition with the upgrade to the ERP system, which inherently will add additional automated controls. As a result, the Company will improve the design of control activities and strengthen process controls surrounding sales, purchases, payroll, among others, and will be call for fewer compensating controls.

Although the Company can give no assurance that these actions will remediate these material weaknesses in internal controls or that additional material weaknesses in our ICFR will not be identified in the future, management believes the foregoing efforts will, when implemented, strengthen our ICFR and DC&P and effectively remediate the identified material weaknesses.

Management will take additional remedial actions as necessary as they continue to evaluate and work to improve the Company's ICFR environment.

Changes in internal controls over financial reporting

Other than the material weaknesses described above, and the remediation process described above, there were no changes to the Company's ICFR during the quarter ended September 30, 2023, that have materially affected, or are reasonably likely to materially affect, the Company's ICFR.

Limitations on Effectiveness of Disclosure Controls and Procedures and Internal Control over Financial Reporting

The Company's management recognizes that any DC&P and ICFR, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives. Because of their inherent limitations, DC&P and ICFR may not prevent or detect all errors or misstatements on a timely basis.

RISK FACTORS

The Company has identified below certain significant risks relating to the business of the Company and the industry in which it operates. The following information is only a summary of certain risk factors and is qualified in its entirety by reference to, and must be read in conjunction with, the detailed information appearing elsewhere in this MD&A. These risks and uncertainties are not the only ones facing the Company. Additional risks and uncertainties not currently known to the Company, or that the Company currently considers immaterial, may also impair the operations of the Company. If any such risks materialize into actual events or circumstances, the Company's assets, liabilities, financial condition, results of operations (including future results of operations), business and business prospects, are likely to be materially and adversely affected. There is no assurance that risk management steps taken will avoid future loss due to the uncertainties described below or other unforeseen risks. An investment in the Common Shares or other securities of the Company is highly speculative and involves a high degree of risk. Before making any investment decision, prospective investors should carefully consider all the information contained in this document including, in particular, the risk factors described below.

Certain factors may have a material adverse effect on the Company's business, financial condition and results of operations. Current and prospective investors should carefully consider the risks and uncertainties and other information contained in this MD&A, the 2022 Financial Statements and the Annual Information Form, particularly under the heading "Risk Factors" in the Annual Information Form, and in other filings that the Company has made and may make in the future with applicable securities authorities, Company's website at www.pyrogenesis.com. The risks and uncertainties described herein and therein are not the only ones the Company may face. Additional risks and uncertainties that the Company is unaware of, or that the Company currently believes are not material, may also become important factors that could adversely affect the Company's business. If any of such risks actually occur, the Company's business, financial condition, results of operations, and future prospects could be materially and adversely affected. In that event, the trading price of the Common Shares (or the value of any other securities of the Company) could decline, and the Company's securityholders could lose part or all of their investment.

Risks Related to the Company's Business and Industry

Operating Income (Loss) and Negative Operating Cash Flow

Prior to September 30, 2023, the Company had a history of losses and negative cash flows. For the nine-month period ended September 30, 2023, the Company has a net loss of $18.7 million, cash flows used in operations of $10.7 million, and an accumulated deficit of $112.1 million. To the extent that the Company has net losses and negative operating cash flow in future periods, it may need to allocate a portion of its cash reserves to fund such negative cash flow. The Company may also be required to raise additional funds through the issuance of equity or debt securities. There can be no assurance that the Company will be able to generate a positive cash flow from its operations, that additional capital or other types of financing will be available when needed or that these financings will be on terms favourable to the Company.

The Company's ability to continue as a going concern is dependent upon its ability in the future to grow its revenue, achieve profitable operations, successfully developing and introducing new products and, in the meantime, to obtain the necessary financing to meet its obligations and repay its liabilities when they become due. While the Company has been successful in securing financing in the past, raising additional funds is dependent on a number of factors outside the Company's control, and as such there is no assurance that it will be able to do so in the future. External financing, predominantly by the issuance of equity and debt, might be sought to finance the operations of the Company; however, there can be no certainty that such funds will be available at terms acceptable to the Company, or at all. If the Company is unable to obtain sufficient additional financing, it may have to curtail operations and development activities, any of which could harm the business, financial condition and results of operations.

Actual Financial Position and Results of Operations May Differ Materially from the Expectations of the Company's Management

The Company's actual financial position and results of operations may differ materially from management's expectations. The Company has experienced some changes in its operating plans and certain delays in the timing of its plans. As a result, the Company's revenue, net income and cash flow may differ materially from the Company's projected revenue, net income and cash flow. The process for estimating the Company's revenue, net income and cash flow requires the use of judgment in determining the appropriate assumptions and estimates. These estimates and assumptions may be revised as additional information becomes available and as additional analyses are performed. In addition, the assumptions used in planning may not prove to be accurate, and other factors may affect the Company's financial condition or results of operations.

Revenue Risks

PyroGenesis may experience delays in achieving revenues, particularly with projects which have a long sales cycle. Revenues may be delayed or negatively impacted by issues encountered by the Company or its clients including:

(i) unforeseen engineering and/or environmental problems;

(ii) delays or inability to obtain required financing, licenses, permits and/or regulatory approvals;

(iii) supply interruptions and/or labour disputes;

(iv) foreign exchange fluctuations and/or collection risk; and

(v) competition from other suppliers and/or alternative energy solutions that are less capital intensive.

There is no assurance that the business will perform as expected or that returns from the business will support the expenditures needed to develop it.

Concentration Risk and Credit Risk

To date, a small number of customers have accounted for a majority of PyroGenesis' revenues. As its business expands, the Company expects that revenue distribution will be over a larger number of different customers. The loss of, or a reduction in, purchase orders or anticipated purchase orders from PyroGenesis' principal customers could have a material adverse effect on its business, financial condition and results of operations. Additionally, if one of PyroGenesis' customers is unable to meet its commitments to PyroGenesis, the Company's business, financial condition and results of operations could be adversely affected.

As a result of the Drosrite International Exclusive Agreement and the Dross Processing Service Agreement, the Company generated significant revenues from payments made to Drosrite International under the Dross Processing Service Agreement. The Company will no longer receive payments under such arrangement if the Dross Processing Service Agreement, which involves a third party in a foreign jurisdiction, is terminated, which could have a material adverse effect on the business, financial condition and results of operations of the Company.

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The maximum credit risk to which the Company is exposed as at September 30, 2023 represents the carrying amount of cash, accounts receivable (except sales tax receivable), costs and profits in excess of billings on uncompleted contracts, deposits and royalties receivable.

Cash is held with major reputable financial institutions.

Management has established a credit policy under which each new customer is analysed individually for creditworthiness before the Company's payment and delivery terms and conditions are offered. The Company's review could include reviewing external ratings, if they are available, financial statements, credit agency information, industry information and in some cases bank references. The Company's exposure to credit risk is mainly influenced by the individual characteristics of each customer. In monitoring customer credit risk, customers are identified according to their characteristics such as their geographic location, industry, trading history with the Company and existence of previous financial difficulties.

The Company does not generally require collateral or other security from customers on accounts receivable, however, the contract terms may include the possibility of recourse in the event of late payment. The Company believes that there is no unusual exposure associated with the collection of these receivables.

The credit risk associated with costs and profits in excess of billings on uncompleted contracts is similar to that of accounts receivable, as these amounts are accumulated and converted to accounts receivable as invoicing milestones are reached.

The royalties receivable are due from a company in which the Company has a strategic investments. The Company does not have collateral or other security associated with the collection of this receivable. The carrying amount of the royalties receivable have been discounted to reflect the time value of money and credit risk of the counterparty.

The deposits are payments made to suppliers and entities from which the Company leases property. The Company does not have collateral or other security associated with the collection of these deposits. As at September 30, 2023 and 2022, no loss allowance has been recognized in connection with these deposits and the maximum exposure is the carrying amount of these deposits.

During the three and nine-month periods ended September 30, 2023, and the year-end December 31, 2022, provisions for expected credit losses were recorded, however, the accounts provisioned by the loss are still subject to enforcement activity in order to collect the balances due.

Technology Development and Manufacturing Capability Risks

PyroGenesis recently expanded into new areas of business and, as a result, many of the Company's products are at various stages of the development cycle. The Company may be unable to commercialise such products, or it may be unable to manufacture such products in a commercially viable manner. Whilst management is confident in both its technology and in its team of experienced engineers, scientists and technicians, it cannot know with certainty, which of its products will be commercialised, when such products will be commercialised, or whether such products will be able to be manufactured and distributed profitably.

Product Revenues/History of Losses

PyroGenesis has incurred losses in the majority of years since its inception. In the past the Company's operations have not generated sufficient earnings and cash flows to date to result in consistent profitability or positive cash flow. For the nine-months ended September 30, 2023, the Company had a net loss of $18.7 million, which includes a gain from the change in fair value of strategic investments of $0.2 million and cash flows used in operations of $10.7 million. There can be no assurance that the Company will be able to continue to generate significant gains from the value of its strategic investments in the future.

Additional financing and dilution

PyroGenesis may require additional financing. There can be no assurance that additional financing will be available to the Company when needed, or on terms acceptable to the Company. PyroGenesis' inability to raise financing to support ongoing operations or to fund capital expenditures could limit the Company's growth and may have a material adverse effect upon the Company.

The Company does not exclude raising additional funds by equity financing. In addition, as of September 30, 2023, 10,820,500 stock options are currently issued and outstanding, together with 9,044,600 share purchase warrants and 51,243 broker warrants which entitles the holder to acquire one broker unit (each broker unit consist of one common share and one warrant). The exercise of stock options and/or warrants, as well as any new equity financings, represents dilution factors for present and future shareholders.

Reliance on Third Party Suppliers, Service Providers, Distributors and Manufacturers

The Company's direct and indirect suppliers, service providers, distributors and manufacturers may elect, at any time, to breach or otherwise cease to participate in supply, service, distribution or manufacturing agreements, or other relationships, on which the Company's operations rely. Loss of its suppliers, service providers, distributors and manufacturers could have a material adverse effect on the Company's business and operational results. Further, any disruption in the manufacturing process done by third party manufacturers could have a material adverse effect on the business, financial condition and results of operations of the Company. The Company cannot ensure that alternative production capacity would be available in the event of a disruption, or if it would be available, if it could be obtained on favorable terms.

Manufacturing Facility

The vast majority of the Company's products are manufactured in its manufacturing facility located in Montreal, Quebec. Accordingly, the Company is highly dependent on the uninterrupted and efficient operation of its manufacturing facility. If for any reason the Company is required to discontinue production at its facility, it could result in significant delays in production of the Company's products and interruption of the Company's sales as it seeks to resume production. The Company may be unable to resume production on a timely basis. If operations at the facility were to be disrupted as a result of equipment failures, natural disasters, fires, accidents, work stoppages, power outages or other reasons, the Company's business, financial condition and/or results of operations could be materially adversely affected.

Sales Cycle and Fixed Price Contracts

PyroGenesis sales cycle is long and the signing of new contracts is subject to delay, over which the Company has little control. The Company also enters into sales contracts with fixed pricing, which may be impacted by changes over the period of implementation. There is no assurance that delays or problems in fulfilling contracts with clients will not adversely affect the Company's activities, operating results or financial position.

Reliance on Technology

PyroGenesis will depend upon continuous improvements in technology to meet client demands in respect of performance and cost, and to explore additional business opportunities. There can be no assurance that the Company will be successful in its efforts in this regard or that it will have the resources available to meet this demand. Whilst management anticipates that the research and development will allow the Company to explore additional business opportunities, there is no guarantee that such business opportunities will be presented or realized. The commercial advantage of the Company will depend to a significant extent on the intellectual property and proprietary technology of PyroGenesis and the ability of the Company to prevent others from copying such proprietary technologies. PyroGenesis currently relies on intellectual property rights and other contractual or proprietary rights, including (without limitation) copyright, trade secrets, confidential procedures, contractual provisions, licenses and patents, to protect its proprietary technology. PyroGenesis may have to engage in litigation in order to protect its patents or other intellectual property rights, or to determine the validity or scope of the proprietary rights of others. This type of litigation can be expensive and time consuming, regardless of whether or not the Company is successful. PyroGenesis may seek patents or other similar protections in respect of particular technology; however, there can be no assurance that any future patent applications will actually result in issued patents, or that, even if patents are issued, they will be of sufficient scope or strength to provide meaningful protection or any commercial advantage to the Company.

Moreover, the process of seeking patent protection can itself be long and expensive. In the meantime, competitors may develop technologies that are similar or superior to PyroGenesis' technology or design around the patents owned by the Company, thereby adversely affecting the Company's competitive advantage in one or more of its areas of business. Despite the efforts of the Company, its intellectual property rights may be invalidated, circumvented, challenged, infringed or required to be licensed to others. It cannot be assured that any steps the Company may take to protect its intellectual property rights and other rights to such proprietary technologies that are central to the Company's operations will prevent misappropriation or infringement of its technology.

Changes to Contracts

PyroGenesis is dependent upon its ability to establish and develop new relationships and to build on existing relationships with current clients. The Company cannot provide assurance that it will be successful in maintaining or advancing its relationships with current clients or procure additional clients. In addition, PyroGenesis cannot provide assurance that its customers and the end users of its products will continue to provide the Company with business, or that existing customers and end users will not seek to renegotiate or terminate existing contracts providing for the sale of the Company's products and technology based on circumstances on which the Company is not currently aware. Any termination or amendment of a contract under which the Company derives an important portion of its revenues, including the Drosrite International Exclusive Agreement and the Dross Processing Service Agreement, and any adverse change in the relationship of the Company with its customers and end users, will have an adverse effect on the Company's business, financial condition and results of operations.

Sales to governments and governmental entities are subject to specific additional risks, such as delays in funding, termination of contracts or sub-contracts at the convenience of the government, termination, reduction or modification of contracts or sub-contracts in the event of changes in the government's policies or as a result of budgetary constraints and increased or unexpected costs resulting in losses or reduced profits under fixed price contracts.

Foreign Exchange Exposure

PyroGenesis' products and services are increasingly being sold in markets outside of Canada, whilst most of its operating expenses and capital expenditures are denominated in Canadian dollars. As a result, the Company is exposed to fluctuations in the foreign exchange rates between Canadian dollar and the currency in which a particular sale is transacted, which may result in foreign exchange losses that could affect earnings. Foreign sales are predominantly denominated in U.S. dollars. The Company has not to date sought to hedge the risks associated with fluctuations in foreign exchange rates.

Competition

The industry is competitive and PyroGenesis competes with a substantial number of companies which have greater technical and financial resources. There can be no assurance that such competitors will not substantially increase the resources devoted to the development and marketing of products and services that compete with those of the Company or that new or existing competitors will not enter the various markets in which PyroGenesis is active. There can be no assurance that competitors will not develop new and unknown technologies with which the Company may have difficulty competing. Furthermore, failure to remain cost competitive may result in PyroGenesis losing business to its competitors.

The plasma technology of PyroGenesis competes against other plasma and conventional technologies. Without limitation, the demand for the plasma technology of PyroGenesis, particularly in waste destruction and waste-to-energy systems, can be impacted by the commodity prices of the energy source used for the process and the price at which waste is accepted by landfills and traditional waste processing plants. While the Company believes that demand for sustainable waste management practices that have lower environmental impacts than traditional solutions such as landfill or incineration is increasing, the high flows of electricity necessary to operate the waste destruction and waste-to-energy systems of PyroGenesis have an impact on the operational costs of the Company's systems, and traditional solutions may constitute lower-cost solutions, particularly if commodity prices (including of oil and natural gas) remain low or experience a decline.

Management and Key Personnel

PyroGenesis depends on the skills and experience of its management team and other key employees. The Company relies heavily on its ability to attract and retain highly skilled personnel in a competitive environment. PyroGenesis may be unable to recruit, retain, and motivate highly skilled employees in order to assist the Company's business, especially activities that are essential to the success of the Company. Failure to recruit and retain highly-skilled employees may adversely affect PyroGenesis' business, financial condition and results of operations.

Implementation of a strategic plan

PyroGenesis' commercial strategy aims to leverage its products, consumables, and services whilst focusing on the resolution of problems within niche markets within the industries served by the Company. There can be no assurances as to the success of the Company's strategic plan, which should be considered under the risks perspective and difficulties frequently encountered by a developing business.

Adverse Decisions of Sovereign Governments

PyroGenesis conducts an increasing portion of its business internationally. There is no assurance that any sovereign government, including Canada's, will not establish laws or regulations that will not be detrimental to the Company's interests or that, as a foreign corporation, it will continue to have access to the regulatory agencies in other countries. Governments have, from time to time, established foreign exchange controls, which could have a material adverse effect on the Company's business, financial condition and results of operations.

Risks Related to International Operations

A substantial portion of the Company's sales are made to customers and end users outside Canada. The Company conducts its international operations directly or through distributors or other agents or intermediaries, including Drosrite International. The Company plans to continue to expand its international sales and marketing efforts. International operations are subject to a number of inherent risks, and the Company's future results could be adversely affected by a number of factors, including:

- unfavorable political or economic environments; requirements or preferences for domestic products or solutions, which could reduce demand for the Company's products;
- differing existing or future regulatory and certification requirements;
- unexpected legal or regulatory changes;
- greater difficulty in collecting accounts receivable and longer collection periods;
- difficulties in enforcing contracts; an inability to effectively protect intellectual property;
- tariffs and trade barriers, export regulations and other regulatory and contractual limitations on the Company's ability to sell its products; and
- potentially adverse tax consequences, including multiple and possibly overlapping tax structures.

Fluctuations in currency exchange rates could materially adversely affect sales denominated in currencies other than the Canadian dollar and cause a reduction in revenues derived from sales in a particular country. Financial instability in foreign markets could also affect the sale of the Company's products in international jurisdictions. In addition, the Company may be denied access to its end customers as a result of a closing of the borders of the countries in which it its products are sold due to economic, legislative, political and military conditions in such countries.

There can be no assurance that such factors will not materially adversely affect the operations, growth prospects and sales of the Company and, consequently, its results of operations. In addition, revenues the Company earns in other jurisdictions may be subject to taxation by more than one jurisdiction, which could materially adversely affect the Company's earnings. Each of these factors could have an adverse effect on the Company's business, financial condition and results of operations.

Governmental Regulation

PyroGenesis is subject to a variety of federal, provincial, state, local and international laws and regulations relating namely to the environment, health and safety, export controls, currency exchange, labour and employment and taxation. These laws and regulations are complex, change frequently and have tended to become more stringent over time. Failure to comply with these laws and regulations may result in a variety of administrative, civil and criminal enforcement measures, including assessment of monetary penalties, imposition of remedial requirements and issuance of injunctions as to future compliance. The Company may be subject to compliance audits by regulatory authorities in the various countries in which it operates.

Government-funded Defense and Security Programs

Like most companies that supply products and services to governments, government agencies routinely audit and investigate government contractors. These agencies may review the Company's performance under its contracts, business processes, cost structure, and compliance with applicable laws, regulations and standards. The Company's incurred costs for each year are subject to audit by government agencies, which can result in payment demands related to costs they believe should be disallowed. The Company works with governments to assess the merits of claims and where appropriate reserve for amounts disputed. The Company could be required to provide repayments to governments and may have a negative effect on its results of operations. Contrary to cost-reimbursable contracts, some costs may not be reimbursed or allowed under fixed-price contracts, which may have a negative effect on the Company's results of operations if it experiences costs overruns.

Environmental Liability

PyroGenesis is subject to various environmental laws and regulations enacted in the jurisdictions in which it operates, which govern the manufacturing, processing, importation, transportation, handling and disposal of certain materials used in the Company's operations. Management believes that it has adequate procedures in place to address compliance with current environmental laws and regulations. Furthermore, management monitors the Company's practices concerning the handling of environmentally hazardous materials. However, there can be no assurance that the Company's procedures will prevent environmental damage occurring from spills of materials handled by the Company or that such damage has not already occurred. On occasion, substantial liabilities to third parties may be incurred. The Company may have the benefit of insurance maintained by it or the operator, however, the Company may become liable for damages against which it cannot adequately insure or against which it may elect not to insure because of high costs or other reasons. The Company's clients are subject to similar environmental laws and regulations, as well as limits on emissions to the air and discharges into surface and sub-surface waters. While regulatory developments that may follow in subsequent years could have the effect of reducing industry activity, the Company cannot predict the nature of the restrictions that may be imposed. The Company may be required to increase operating expenses or capital expenditures in order to comply with any new restrictions or regulations.

Product Liability and Other Lawsuits

PyroGenesis is subject to a variety of potential product liabilities claims and other lawsuits related with its operations, including liabilities and expenses associated with product defects. The Company maintains product liability and other insurance coverage that management believes is generally in accordance with the market practice in its industry, but there can be no assurance that the Company will always be adequately insured against all such potential liabilities.

A malfunction or the inadequate design of the Company's products could result in product liability or other tort claims. Accidents involving the Company's products could lead to personal injury or physical damage. Any liability for damages resulting from malfunctions could be substantial and could materially adversely affect the Company's business and results of operations. In addition, a well-publicized actual or perceived problem could adversely affect the market's perception of the Company's products. This could result in a decline in demand for the Company's products, which would materially adversely affect the Company's financial condition and results of operations.

The sale and use of products and processes developed by the Company may entail potential liability and possible warranty claims. The Company may be subject to personal injury claims for injuries resulting from use of its products. Although the Company maintains product liability insurance, there can be no assurance that such insurance will continue to be available on commercially reasonable terms or that the risks covered, or coverage amounts will be sufficient to cover all claims.

Information systems disruptions

The Company relies on various information technology systems to manage its operations. Over the last several years, the Company has implemented, and it continues to implement, modifications and upgrades to such systems, including changes to legacy systems, replacing legacy systems with successor systems with new functionality, and acquiring new systems with new functionality. These types of activities subject the Company to inherent costs and risks associated with replacing and changing these systems, including impairment of the Company's ability to fulfill customer orders, potential disruption of its internal control structure, substantial capital expenditures, additional administration and operating expenses, retention of sufficiently skilled personnel to implement and operate the new systems, demands on management time and other risks and costs of delays or difficulties in transitioning to or integrating new systems into the Company's current systems. These implementations, modifications, and upgrades may not result in productivity improvements at a level that outweighs the costs of implementation, or at all. In addition, the difficulties with implementing new technology systems may cause disruptions in the Company's business operations and have a material adverse effect on its business, financial condition, or results of operations.

Security Breaches

As part of its day-to-day business, the Company stores its data and certain data about its customers in its global information technology system. Unauthorized access to the Company's data, including any regarding its customers, could expose the Company to a risk of loss of this information, loss of business, litigation and possible liability. These security measures may be breached by intentional misconduct by computer hackers, as a result of third-party action, employee error, malfeasance or otherwise. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as usernames, passwords or other information in order to gain access to the data of the Company's customers or the Company's data, including the Company's intellectual property and other confidential business information, or the Company's information technology systems. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, the Company may be unable to anticipate these techniques or to implement adequate preventative measures. Any security breach could result in a loss of confidence by the Company's customers, damage its reputation, disrupt its business, lead to legal liability and negatively impact its future sales.

Public Health Crises

Public health crises, including local, regional, national or international outbreak of a contagious disease, could have an adverse effect on local economies, the global economy, and the markets in which the Company operates and markets its products, and may adversely impact the price and demand for the Company's products and the ability of the Company to operate and market its products. Any such alterations or modifications could cause substantial interruption to the Company's business, any of which could have a material adverse effect on the Company's operations or financial results, and could include temporary closures of one or more of the Company's or its partner's offices or facilities; temporary or long-term labor shortages; temporary or long-term adverse impacts on the Company's supply chain and distribution channels; the potential of increased network vulnerability and risk of data loss resulting from increased use of remote access and removal of data from the Company's facilities.

Litigation

The Company may from time to time become party to litigation in the ordinary course of business which could adversely affect its business. Should any litigation in which the Company becomes involved be determined against the Company, such a decision could adversely affect the Company's ability to continue operating and the market price for the Common Shares and could use significant resources. Even if the Company is involved in litigation and wins, litigation can redirect significant Company resources. Litigation may also create a negative perception of the Company's brand.

Trade Secrets May Be Difficult to Protect

The Company's success depends upon the skills, knowledge and experience of its scientific and technical personnel, consultants and advisors, as well as contractors. Because the Company operates in a highly competitive industry, it relies in part on trade secrets to protect its proprietary products and processes. However, trade secrets are difficult to protect. The Company generally enters into confidentiality or non-disclosure agreements with its corporate partners, employees, consultants, outside scientific collaborators, developers and other advisors. These agreements generally require that the receiving party keep confidential, and not disclose to third parties, confidential information developed by the receiving party or made known to the receiving party by the Company during the course of the receiving party's relationship with the Company. These agreements also generally provide that inventions conceived by the receiving party in the course of rendering services to the Company will be its exclusive property, and the Company enters into assignment agreements to perfect its rights.

These confidentiality, inventions, and assignment agreements, where in place, may be breached and may not effectively assign intellectual property rights to the Company. The Company's trade secrets also could be independently discovered by competitors, in which case the Company would not be able to prevent the use of such trade secrets by its competitors. The enforcement of a claim alleging that a party illegally obtained and was using the Company's trade secrets could be difficult, expensive and time consuming and the outcome could be unpredictable. The failure to obtain or maintain meaningful trade secret protection could adversely affect the Company's competitive position.

Risks Related to Acquiring Companies

The Company may acquire other companies in the future and there are risks inherent in any such acquisition. Specifically, there could be unknown or undisclosed risks or liabilities of such companies for which the Company is not sufficiently indemnified. Any such unknown or undisclosed risks or liabilities could materially and adversely affect the Company's financial performance and results of operations. The Company could encounter additional transaction and integration related costs or other factors such as the failure to realize all of the benefits from such acquisitions. All of these factors could cause dilution to the Company's earnings per share or decrease or delay the anticipated accretive effect of the acquisition and cause a decrease in the market price of the Company's securities. The Company may not be able to successfully integrate and combine the operations, personnel and technology infrastructure of any such acquired company with its existing operations. If integration is not managed successfully by the Company's management, the Company may experience interruptions in its business activities, deterioration in its employee and customer relationships, increased costs of integration and harm to its reputation, all of which could have a material adverse effect on the Company's business, financial condition and results of operations. The Company may experience difficulties in combining corporate cultures, maintaining employee morale and retaining key employees. The integration of any such acquired companies may also impose substantial demands on the management. There is no assurance that these acquisitions will be successfully integrated in a timely manner.

Global Economic Uncertainty

Demand for the Company's products and services are influenced by general economic and consumer trends beyond the Company's control. There can be no assurance that the Company's business and corresponding financial performance will not be adversely affected by general economic or consumer trends. In particular, global economic conditions are still tight, and if such conditions continue, recur or worsen, there can be no assurance that they will not have a material adverse effect on the Company's business, financial condition and results of operations.

Furthermore, such economic conditions have produced downward pressure on stock prices and on the availability of credit for financial institutions and corporations. If these levels of market disruption and volatility continue, the Company might experience reductions in business activity, increased funding costs and funding pressures, as applicable, a decrease in the market price of the Common Shares, a decrease in asset values, additional write-downs and impairment charges and lower profitability.

Inability to Renew Leases

The Company may be unable to renew or maintain its leases (commercial or real property) on commercially acceptable terms or at all. An inability to renew its leases, or a renewal of its leases with a rental rate higher than the prevailing rate under the applicable lease prior to expiration, may have an adverse impact on the Company's operations, including disruption of its operations or an increase in its cost of operations. In addition, in the event of non-renewal of any of the Company's leases, the Company may be unable to locate suitable replacement properties for its facilities or it may experience delays in relocation that could lead to a disruption in its operations. Any disruption in the Company's operations could have an adverse effect on its financial condition and results of operations.

Financial Reporting and Other Public Issuer Requirements

As a public company, the Company is subject to the reporting requirements of the Canadian Securities Administrators, or the CSA, and the U.S. Securities Exchange Act of 1934, as amended, and the rules and regulations of the listing standards of the TSX and NASDAQ and the U.S. Sarbanes-Oxley Act. The requirements of these laws, rules and regulations have increased and will continue to increase the Company's legal, accounting, and financial compliance costs, make some activities more difficult, time-consuming, and costly, and place significant strain on the Company's personnel, systems, and resources. The Company is continuing to develop and refine its disclosure controls and procedures that are designed to ensure that information required to be disclosed by the Company in the reports that it will file with the CSA is recorded, processed, summarized, and reported within the time periods specified in CSA rules and forms and that information required to be disclosed in reports under applicable securities laws is accumulated and communicated to the Company's principal executive and financial officers. The Company is also continuing to improve its internal control over financial reporting. In order to improve the effectiveness of its disclosure controls and procedures and internal control over financial reporting, the Company has expended, and anticipate that it will continue to expend, significant resources, including accounting-related costs and significant management oversight.

The Company has identified certain material weaknesses in its internal controls, as more fully explained in its management's discussion and analysis for the quarter ended September 30, 2023 and the year ended December 31, 2022 under "Controls and Procedures". Additional weaknesses in the Company's disclosure controls and internal control over financial reporting may also be discovered in the future. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could harm the Company's results of operations or cause the Company to fail to meet its reporting obligations and may result in a restatement of the Company's financial statements for prior periods. Any failure to improve and maintain effective internal control over financial reporting also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of the Company's internal control over financial reporting that the Company will eventually be required to include in its periodic reports that will be filed with the CSA. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in the Company's reported financial and other information, which could have a negative effect on the trading price of the Common Shares. In addition, if the Company is unable to continue to meet these requirements, or other requirements imposed by security regulators, even with the Company's best efforts, it may not be able to remain listed on the TSX and/or NASDAQ.

Influence of the Significant Shareholders

To the Company's knowledge, no shareholder beneficially owns, or controls or directs, directly or indirectly, more than 10% of the voting rights attached to the Company's outstanding voting securities, except for Mr. Photis Peter Pascali, President and Chief Executive Officer of the Company, who holds or controls, directly or indirectly, 79,282,498 Common Shares, representing in aggregate 44.32% of the total voting rights attached to the outstanding Common Shares, and options and warrants to acquire an additional 9,220,000 Common Shares (increasing the total number of Common Shares held or controlled, directly or indirectly, by him to 88,502,498 Common Shares, or 44.52% of the Common Shares, on a fully diluted basis). In addition, from time to time, the Company may have other shareholders who have the ability to exercise significant influence over matters submitted to the shareholders of the Company for approval, whether subject to approval by a majority of the shareholders of the Company or subject to a class vote or special resolution.

Limited Control Over the Company's Operations

Holders of the Common Shares have limited control over changes in the Company's policies and operations, which increases the uncertainty and risks of an investment in the Company. The Board determines major policies, including policies regarding financing, growth, debt capitalization and any future dividends to shareholders of the Company. Generally, the Board may amend or revise these and other policies without a vote of the holders of the Common Shares. The Board's broad discretion in setting policies and the limited ability of holders of the Common Shares to exert control over those policies increases the uncertainty and risks of an investment in the Company.

Change in Tax Laws

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to the Company. These enactments and events could require the Company to pay additional tax amounts on a prospective or retroactive basis, thereby substantially increasing the amount of taxes the Company is liable to pay in the relevant tax jurisdictions. Accordingly, these events could decrease the capital that the Company has available to operate its business. Any or all of these events could harm the business and financial performance of the Company.

Forward-Looking Information

The forward-looking information included in this MD&A relating to, among other things, the Company's future results, performance, achievements, prospects, targets, intentions or opportunities or the markets in which it operates and the other statements listed is based on opinions, assumptions and estimates made by the Company's management in light of its experience and perception of historical trends, current conditions and expected future developments, as well as other factors that the Company believes are appropriate and reasonable in the circumstances. However, there can be no assurance that such estimates and assumptions will prove to be correct. The Company's actual results in the future may vary significantly from the historical and estimated results and those variations may be material. The Company makes no representation that its actual results in the future will be the same, in whole or in part, as those included in this MD&A.

Credit Facilities

The Company's credit facilities and financing agreements mature on various dates. There can be no assurance that such credit facilities or financing agreements will be renewed or refinanced, or if renewed or refinanced, that the renewal or refinancing will occur on equally favourable terms to the Company. The Company's ability to continue operating may be adversely affected if the Company is not able to renew its credit facilities or arrange refinancing, or if such renewal or refinancing, as the case may be, occurs on terms materially less favorable to the Company than at present. The Company's current credit facilities and financing agreements have no imposed financial covenants and obligations on the Company. In the event of the contrary, there is a risk that such loans may go into default if there is a breach in complying with such covenants and obligations, which could result in the lenders realizing on their security and causing our shareholders to lose some or all of their investment.

Risks Related to the Company's Securities

Potential Volatility of Common Share Price

The market price of the Common Shares could be subject to significant fluctuations. Some of the factors that may cause the market price of the Common Shares to fluctuate include:

(i) the public's reaction to the Company's press releases, announcements and filings with regulatory authorities and those of its competitors;

(ii) fluctuations in broader stock market prices and volumes;

(iii) changes in market valuations of similar companies;

(iv) investor perception of the Company, its prospects or the industry in general;

(v) additions or departures of key personnel;

(vi) commencement of or involvement in litigation;

(vii) announcements by the Company or its competitors of strategic alliances, significant contracts, new technologies, acquisitions, commercial relationships, joint ventures or capital commitments;

(viii) variations in the Company's quarterly results of operations or cash flows or those of other comparable companies;

(ix) revenues and operating results failing to meet the expectations of securities analysts or investors in particular quarter;

(x) changes in the Company's pricing policies or the pricing policies of its competitors;

(xi) future issuances and sales of Common Shares;

(xii) sales of Common Shares by insiders of the Company;

(xiii) third party disclosure of significant short positions;

(xiv) demand for and trading volume of Common Shares;

(xv) changes in securities analysts' recommendations and their estimates of the Company's financial performance;

(xvi) short-term fluctuation in stock price caused by changes in general conditions in the domestic and worldwide economies or financial markets; and

(xvii) the other risk factors described under this heading of the MD&A.

The realization of any of these risks and other factors beyond the Company's control could cause the market price of the Common Shares to decline significantly.

In addition, broad market and industry factors may harm the market price of the Common Shares. Hence, the price of the Common Shares could fluctuate based upon factors that have little or nothing to do with the Company, and these fluctuations could materially reduce the price of the Common Shares regardless of the Company's operating performance. In the past, following a significant decline in the market price of a company's securities, there have been instances of securities class action litigation having been instituted against that company. If the Company were involved in any similar litigation, it could incur substantial costs, management's attention and resources could be diverted and it could harm the Company's business, operating results and financial condition.

Market Liquidity

The market price for the Common Shares could be subject to wide fluctuations. Factors such as the announcement of significant contracts, technological innovations, new commercial products, patents, a change in regulations, quarterly financial results, future sales of Common Shares by the Company or current shareholders, and many other factors could have considerable repercussions on the price of the Common Shares. In addition, the financial markets may experience significant price and value fluctuations that affect the market prices of equity securities of companies that sometimes are unrelated to the operating performance of these companies. Broad market fluctuations, as well as economic conditions generally may adversely affect the market price of the Common Shares.

Dividends to Shareholders

The Company does not anticipate paying cash dividends on the Common Shares in the foreseeable future. The Company currently intends to retain all future earnings to fund the development and growth of its business. Any payment of future dividends will be at the discretion of the directors and will depend on, among other things, the Company's earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends, and other considerations that the directors deem relevant.

Impact of Future Sales by Existing Shareholders

If the Company's shareholders sell substantial amounts of the Common Shares in the public market, the market price of the Common Shares could decrease. The perception among investors that these sales will occur could also produce this effect. All currently outstanding Common Shares other than those subject to lock-up agreements executed by certain existing shareholders will, subject to applicable securities laws, generally be immediately available for resale in the public markets.

Subject to compliance with applicable securities laws, the Company's officers, directors and their affiliates may sell some or all of their Common Shares in the future. No prediction can be made as to the effect, if any, such future sales of Common Shares will have on the market price of the Common Shares prevailing from time to time. However, the future sale of a substantial number of Common Shares by the Company's officers, directors and their affiliates, or the perception that such sales could occur, could materially adversely affect prevailing market prices for the Common Shares.

Additional Common Shares issuable upon the exercise of stock options may also be available for sale in the public market, which may also cause the market price of the Common Shares to fall. Accordingly, if substantial amounts of Common Shares are sold in the public market, the market price could fall.

Working Capital and Future Issuances

The Company may issue additional Common Shares in the future which may dilute a shareholder's holdings in the Company. The Articles permit the issuance of an unlimited number of Common Shares, and shareholders of the Company will have no pre-emptive rights in connection with any further issuances The directors of the Company have the discretion to determine the provisions attaching to the Common Shares and the price and the terms of issue of further Common Shares.

Additional equity financing may be dilutive to holders of Common Shares. Debt financing may involve restrictions on the Company's financing and operating activities. Debt financing may be convertible into other securities of the Company which may result in immediate or resulting dilution. In either case, additional financing may not be available to the Company on acceptable terms or at all. If the Company is unable to raise additional funds as needed, the scope of its operations or growth may be reduced and, as a result, the Company may be unable to fulfil its long-term goals. In this case, investors may lose all or part of their investment. Any default under such debt instruments could have a material adverse effect on the Company, its business or the results of operations.

Securities or Industry Analysts

The trading market for Common Shares could be influenced by the research and reports that industry and/or securities analysts may publish about the Company, its business, the market or competitors. If any of the analysts who may cover the Company's business change their recommendation regarding the Common Shares adversely, or provide more favourable relative recommendations about its competitors, the share price would likely decline. If any analyst who may cover the Company's business were to cease coverage or fail to regularly publish reports on the Company, it could lose visibility in the financial markets, which in turn could cause the share price or trading volume to decline.

Risks Related to the Company's Status as a Foreign Private Issuer

Information Publicly Available to the Company's U.S. shareholders

The Company is a foreign private issuer under applicable U.S. federal securities laws. As a result, the Company does not file the same reports that a U.S. domestic issuer would file with the U.S. Securities and Exchange Commission (the "SEC"), although the Company is required to file with or furnish to the SEC the continuous disclosure documents that the Company is required to file in Canada under Canadian Securities Laws, in certain respects the reporting obligations are less detailed and less frequent than those of U.S. domestic reporting companies. In addition, the Company's officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions of Section 16 of the U.S. Exchange Act. Therefore, the Company's shareholders may not know on as timely a basis when the Company's officers, directors and principal shareholders purchase or sell Common Shares as the reporting periods under the corresponding Canadian insider reporting requirements are longer.

As a foreign private issuer, the Company is exempt from the rules and regulations under the Exchange Act related to the furnishing and content of proxy statements. The Company is also exempt from Regulation FD, which prohibits issuers from making selective disclosures of material non-public information. While the Company complies with the corresponding requirements relating to proxy statements and disclosure of material non-public information under Canadian securities laws, these requirements differ from those under the Exchange Act and Regulation FD and shareholders should not expect to receive the same information at the same time as such information is provided by U.S. domestic companies. In addition, the Company may not be required under the Exchange Act to file annual and quarterly reports with the SEC as promptly as U.S. domestic companies whose securities are registered under the Exchange Act.

In addition, as a foreign private issuer, the Company has the option to follow certain Canadian corporate governance practices, except to the extent that such laws would be contrary to U.S. securities laws, and provided that the Company discloses the requirements it is not following and describe the Canadian practices it follows instead. The Company plans to rely on this exemption. As a result, the Company's shareholders may not have the same protections afforded to shareholders of U.S. domestic companies that are subject to all U.S. corporate governance requirements.

Loss of Foreign Private Issuer Status in the Future

In order to maintain its status as a foreign private issuer, a majority of the Company's Common Shares must be either directly or indirectly owned by non-residents of the U.S. unless the Company also satisfies one of the additional requirements necessary to preserve this status. The Company may in the future lose its foreign private issuer status if a majority of the Common Shares are held in the United States and the Company fails to meet the additional requirements necessary to avoid loss of foreign private issuer status. The regulatory and compliance costs to the Company under U.S. federal securities laws as a U.S. domestic issuer may be significantly more than the costs the Company incurs as a Canadian foreign private issuer eligible to use the multi-jurisdictional disclosure system ("MJDS"). If the Company is not a foreign private issuer, it would not be eligible to use the MJDS or other foreign issuer forms and would be required to file periodic and current reports and registration statements on U.S. domestic issuer forms with the SEC, which are more detailed and extensive than the forms available to a foreign private issuer. In addition, the Company may lose the ability to rely upon exemptions from NASDAQ corporate governance requirements that are available to foreign private issuers.

Inability for U.S. Investors to Enforce Certain Judgments

The Company is a corporation existing under the Canada Business Corporations Act. A number of the Company's directors and officers are residents of Canada, and substantially all of the Company's assets are located outside the United States. As a result, it may be difficult to effect service within the United States upon the Company or upon its directors and officers. Execution by United States courts of any judgment obtained against the Company or any of the Company's directors or officers in United States courts may be limited to the assets of such companies or such persons, as the case may be, located in the United States. It may also be difficult for holders of securities who reside in the United States to realize in the United States upon judgments of courts of the United States predicated upon civil liability and the civil liability of the Company's directors and executive officers under the United States federal securities laws. The Company has been advised that a judgment of a U.S. court predicated solely upon civil liability under U.S. federal securities laws or the securities or "blue sky" laws of any state within the United States, would likely be enforceable in Canada if the United States court in which the judgment was obtained has a basis for jurisdiction in the matter that would be recognized by a Canadian court for the same purposes. However, there may be doubt as to the enforceability in Canada against these non-U.S. entities or their controlling persons, directors and officers who are not residents of the United States, in original actions or in actions for enforcement of judgments of courts of the United States, of liabilities predicated solely upon U.S. federal or state securities laws.

Risks Relating to the Company's Status as an "Emerging Growth Company" Under U.S. Securities Laws

The Company is an "emerging growth company" as defined in section 3(a) of the Exchange Act (as amended by the JOBS Act, enacted on April 5, 2012), and the Company will continue to qualify as an emerging growth company until the earliest to occur of: (a) the last day of the fiscal year during which the Company has total annual gross revenues of US$1,070,000,000 (as such amount is indexed for inflation every five years by the SEC) or more; (b) the last day of the fiscal year of the Company following the fifth anniversary of the date of the first sale of common equity securities of the Company pursuant to an effective registration statement under the United States Securities Act of 1933, as amended; (c) the date on which the Company has, during the previous three year period, issued more than US$1,000,000,000 in non-convertible debt; and (d) the date on which the Company is deemed to be a "large accelerated filer", as defined in Rule 12b-2 under the Exchange Act. The Company will qualify as a large accelerated filer (and would cease to be an emerging growth company) at such time when on the last business day of its second fiscal quarter of such year the aggregate worldwide market value of its common equity held by non-affiliates will be US$700,000,000 or more.

For so long as the Company remains an emerging growth company, it is permitted to and intends to rely upon exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the JOBS Act. The Company takes advantage of some, but not all, of the available exemptions available to emerging growth companies. The Company cannot predict whether investors will find the Common Shares less attractive because the Company relies upon certain of these exemptions. If some investors find the Common Shares less attractive as a result, there may be a less active trading market for the Common Shares and the Common Share price may be more volatile. On the other hand, if the Company no longer qualifies as an emerging growth company, the Company would be required to divert additional management time and attention from the Company's development and other business activities and incur increased legal and financial costs to comply with the additional associated reporting requirements, which could negatively impact the Company's business, financial condition and results of operations.

OUTLOOK AND RECENT DEVELOPMENTS

Q3 Production Highlights

The information below represents highlights from the past quarter for each of the Company's main business verticals, followed by an outline of the Company's strategy, and key developments that will impact the subsequent quarters.

In Q3 2023, PyroGenesis continued its focus on advancing its updated business strategy that was first outlined in the Company's 2022 fourth quarter and year-end results.

As noted, as the variety of uses for the Company's core technologies has expanded, and industry interest has increased, the Company is concentrating its activities under three ecosystem-solution that align with economic drivers that are key to global heavy industry:

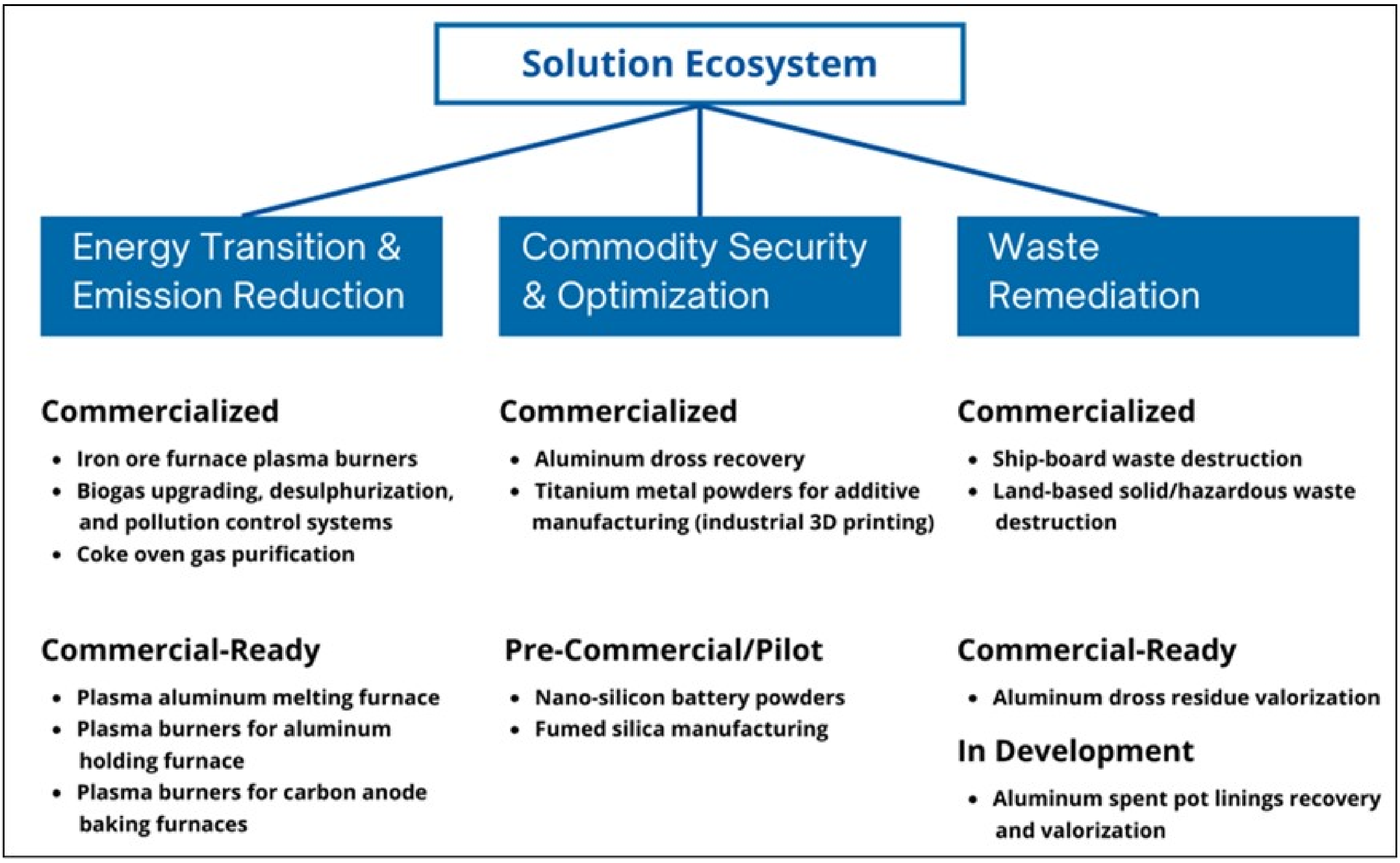
Energy Transition & Emission Reduction:

- fuel switching, utilizing the Company's electric-powered plasma torches and biogas upgrading technology to help heavy industry reduce fossil fuel use and greenhouse gas emissions,

Commodity Security & Optimization:
- recovery of viable metals, and optimization of production methods/processes geared to increase output, maximize raw materials and improve availability of critical minerals,

Waste Remediation:
- safe destruction of hazardous materials, and the recovery and valorization of underlying substances such as chemicals and minerals.

Within each vertical the Company offers several solutions at different stages of commercialization.



<u>Energy Transition & Emission Reduction</u>

- **In August**, the Company announced a contract (Press Release dated August 1, 2023) for $4.13 million for a 4.5MW plasma torch system, with an aeronautics and defense industry client who is a prime contractor for the U.S. government and who has extensive experience as an innovation hub, providing technology and test services to solve critical defense, military, and aeronautics challenges.

<u>Commodity Security & Optimization</u>

- **In September**, the Company announced receipt of an order from a global aerospace firm (Press Release dated September 19, 2023) for the Company's coarse cut titanium metal powder, produced by the Company's NexGen™ plasma atomization system, which are designed for use in industrial 3D printing and additive manufacturing. The Client is a large global aerospace original equipment manufacturer (OEM) in the United States, and is the one that the Company is undergoing a qualification process; this new order is unrelated to that process, and is intended for a separate use in the Client's research and development programs.

  As stated at the time by Mr. P. Peter Pascali, CEO and President of PyroGenesis of the announcement, *"The significance of this order is the particle size distribution (PSD) that has been requested. The PSD for this order is for our coarse cut titanium powder, in this case for powder between 45-150µm (microns), which we have been producing over the past year as we build our stock inventory. This contract recognizes what we believe is the superior overall quality of our powder and establishes a market for a larger percentage of our powder output, thereby improving our overall returns substantially."*

  In certain traditional metal powder production processes, as the powder is created then filtered and separated into different cut sizes, the fine cut powder is removed for sale, with the remaining coarsest cut often considered of limited use, or even discarded as unsuitable. However, with PyroGenesis Additive's NexGen™ plasma atomization system, the coarsest cut component of the production batch remains of such a high quality, that the inventory of these powders is stored for future sales. Furthermore, we are currently in discussions with various potential clients who have expressed interest in the coarse cut powder. By selling both the fine and coarse cut of each powder production run, the Company's yield percentage from raw material is greatly enhanced, which is in line with the Company's broader mandate for commodity security and optimization.

Waste Remediation

- **In September**, the Company announced receipt of a $2.25 million plasma torch contract (Press Release dated September 12, 2023) from a U.S. corporation geared to destroy perfluoroalkyl and polyfluoroalkyl substances ("PFAS") on behalf of a large operator of public water systems.

  PyroGenesis had previously announced its involvement (Press Release dated October 28, 2021) in this very same project before subsequently suspending and discontinuing discussions (Press Release dated October 7, 2022) as, at the time, the project did not align with the minimum requirements of the Company's global strategy. However, as a result of renewed interest from the project principles, and upon developing a different approach, the Client re-engaged with PyroGenesis and as such PyroGenesis will now supply a plasma torch system as a key destruction component of the overall solution build.

  PFAS are man-made chemicals – often referred to as "forever chemicals" – that have been widely used in consumer products in various industries, such as aerospace, automotive, construction, amongst others, for many decades. Products that may contain PFAS include non-stick cookware, stain resistant coatings used on carpets, upholstery, and other fabrics, water resistant clothing, cleaning products, personal care and cosmetics products and any other product that resist grease, water and oil. Due to their widespread use and strong chemical bonds and properties, which account for their persistence in the environment, PFAS are proving to be persistent pollutants that affect humans and wildlife, as they are likely to be exposed to these chemicals by consuming contaminated water or food, using products made with PFAS, or breathing air containing PFAS.

Q3 Financial Highlights

- **In July**, the Company announced amendment of a potential $5 million brokered private placement of convertible debenture units (Press Release dated July 10, 2023) originally announced in June of Q1 (Press Release dated June 22, 2023), including participation by the CEO; the placement closed in July (Press Release dated July 21, 2023), with aggregate gross proceeds of $3,030,000.

- **In August**, the Company confirmed receipt (Press Release dated August 22, 2023) of the down payment of $826,000 associated with the $4.1 million contract for a 4.5MW high power plasma torch system (Press Release dated August 1, 2023).

- **In August**, the Company confirmed receipt (Press Release dated August 24, 2023) a milestone payment of $445,200 associated with the engineering phase for its SPARC™ refrigerant waste destruction system from the government-mandated organization known as Cool-Safe, which previously ordered the $6 million system from PyroGenesis in Q1 of 2023 (Press Release dated January 10, 2023).

OUTLOOK

Overall Strategy

PyroGenesis provides technology solutions to heavy industry that leverage off of the Company's expertise in ultra-high temperature processes. The Company has evolved from its early beginnings of being a specialty-engineering firm to being a provider of a robust technology eco-system for heavy industry that helps address key strategic goals.

The Company believes its strategy to be quite timely, as multiple heavy industries are committing to major carbon and waste reduction programs at the same time as many governments are increasingly funding environmental technologies and infrastructure projects – all the while both are making it a strategy to ensure the availability of critical minerals during the coming decades of increased output demand.

While there can be no guarantees, the Company believes the evolution of its strategy beyond greenhouse gas emission reduction, to an expanded focus that encapsulates the key verticals listed in the section "Q3 Production Highlights", both (i) improves the Company's chances for success while (ii) also providing a clearer picture of how the Company's wide array of offerings work in tandem to support heavy industry goals.

PyroGenesis' market opportunity is significant, as major industries such as aluminum, steelmaking, manufacturing, defense, aeronautics, and government require factory-ready, technology-based solutions to help steer through the paradoxical landscape of increasing demand and tightening regulations and material availability.

As more of the Company's offerings reach full commercialization, PyroGenesis will remain focused on attracting influential customers in broad markets while at the same time ensuring that operating expenses are controlled to achieve profitable growth.

For the remainder of 2023, we will continue to sharpen our focus on our strategy that structures our solution ecosystem under the three verticals noted previously: (i) energy transition & emission reduction, (ii) commodity security & optimization, and (iii) waste remediation.

Cost Controls and Efficiencies

PyroGenesis is competing hard while closely scrutinizing both potential and existing projects to ensure that the utilization of our labour and financial resources are optimized. As we have shown in the past, we will only engage in projects if the potential benefits to PyroGenesis is significant and well-understood. We continue to intensify our focus on project and budgetary clarity during this persistent period of elevated global inflationary pressures, by sourcing alternative suppliers and constantly adjusting project resources. We have also refined our early-stage project assessment process to allow for faster "go / no-go" decisions on project viability.

Enhanced Sales and Marketing

Against the backdrop of this 3-tiered strategy, the Company has been increasing sales, marketing, and R&D efforts in-line with – and in some cases ahead of – the growth curve for industrial change related to greenhouse gas reduction efforts.

In September, the Company was featured as a cover story in Powder Metallurgy Review, a premier business magazine serving the additive manufacturing and metals industries. The multi-page article detailed PyroGenesis Additive's journey to becoming a player in the titanium metal powder production market with its new NexGen production technology.

During the quarter, the Company proudly participated in both the "5th Symposium on Iron Ore Pelletizing" in Quebec City, and also in the Côte-Nord tour organized by AluQuébec - Grappe industrielle de l'aluminium du Québec. The latter of the two events was an invitation-only event which gathered over 25 partners and equipment manufacturers from various industry sectors.

Business Line Developments

The upcoming milestones which are expected to confirm the validity of our strategies are outlined below (please note that these timelines are estimates based on information provided to use by the Clients/Potential Clients, and while we do our best to be accurate, timelines can and will shift, due to protracted negotiations, client technical and resource challenges, or other unexpected situations beyond our or the Clients' control):

Business Line Developments: Near Term (0 – 3 months)

<u>Energy Transition & Emission Reduction</u>

<u>New Industry Contract for Plasma Torches:</u> The Company is currently negotiating a large first-phase contract in excess of $10 million that would signal PyroGenesis' resumption of work in an industry that previously showed promise. This industry, which shall remain confidential at present, has previously heralded the potential use of plasma torches in conducting its primary objective, due to the increased speed and other advanced criteria at which the projects could be completed by using plasma torches vs traditional approaches. While there is no guarantee this contract will be signed, if successful the Company foresees the potential for a multi-phase, multi-year partnership with the client that may result in many additional plasma torch orders over the next few years.

<u>Iron Ore Pelletization Torch Trials:</u> as mentioned in the Q1 outlook on May 15, in April 2023, the commissioning of the plasma torch systems, for use in Client B's pelletization furnaces, was underway, with the Company's engineers onsite at the Client's iron ore facility. The commissioning process includes installation, start-up, and site acceptance testing (SAT). The Company previously announced that it had shipped four 1 MW plasma torch systems for use in Client B's iron ore pelletization furnaces, for trials toward potentially replacing fossil-fuel burners with plasma torches in the Client's furnaces.

As mentioned in Q2 Outlook, this project continues to move forward, however the commissioning suffered a series of delays, due to damaging regional torrential rainstorms and flooding that damaged the facility's electrical system and furnace components. Repairs have been ongoing. The Company's plasma torches have been installed and activated, and the final commissioning and site acceptance testing has resumed, with expectation for final SAT completion within the next few weeks.

The Client has informed us that they continued to experience technical challenges of their own at different stages during Q3, and the site acceptance testing (SAT) was not completed as expected during the quarter. While this is understandably frustrating, the project is not in any jeopardy, and the Client remains committed to the trials.

As of this date, November 9, the Client B has indicated that they were continuing to move forward in resolving their own technical and supply chain issues. Client B is confident that the issues are minor comparatively, and that the acceptance testing, and full trials will be back on track once certain components on backorder are received. Although the timeframe is uncertain, it is expected to be achieved before the end of the year.

Client A, a large international mining company who has also purchased a full plasma torch system for use in trials in their pelletization furnaces, has recently informed the Company that they continue their plasma torch initiative at their own pace.

<u>Commodity Security & Optimization</u>

<u>Product Qualification Process for Global Aerospace Firm:</u> Based on information flow between the Company and the aerospace client previously announced, the Company believes that the 2-year long qualification process to approve the Company's titanium metal powers for use by a global aerospace firm and their suppliers, will conclude in the near term.

Of note, the Company can confirm that the qualification process also now includes PyroGenesis' "coarse cut" titanium metal powder, in addition to the "fine cut" titanium metal powder that has been previously discussed as part of the qualification process.

<u>Waste Remediation</u>

<u>Post-Quarter End:</u> In October, the Company announced a contract for $360,000 (Press Release dated October 24, 2023) for a lab-scale size version of the Company's plasma arc chemical warfare agent destruction system (known as "PACWADS") from a European engineering services firm undertaking the discovery and safe destruction of chemical warfare agents within the European Union.

The first phase lab-scale order, part of a potential three-phase project, is in relation to a multi-partner project aimed at identifying, extracting, and disposing of chemical munitions and chemical warfare agents residing in active marine passageways and corridors. The second phase will consist of testing the PACWADs system to validate its efficiency, performance and capacity. The eventual goal is to develop a full-scale system once results from the lab-scale system are reviewed.

Potential PAWDS Order: The Company is in initial negotiations with a company that conducts cleanup and destruction of waste from seawater. They have also indicated interest in doing the same on land in remote locations. Negotiations for a PyroGenesis Plasma Arc Waste Destruction System (PAWDS), similar to the type the Company designed and built for some of the U.S. Navy aircraft carriers, are in early stage. While there is no guarantee this contract is completed, if successful the Company may be contracted for multiple PAWDS systems over time.

Financial

Payments for Outstanding Major Receivables: The Company remains in continuous discussions with Radian Oil and Gas Services Company regarding the outstanding receivable of approximately US$8.0 million under the Company's existing $25 million+ Drosrite™ contract. As previously announced, PyroGenesis agreed to a strategic extension of the payment plan, by the customer and its end-customer, geared to better align the pressures on the end-user's operating cash flows created by increased business opportunities.

These discussions are positive, both in regard to the ongoing payment plan, and in regards to a potential new order of additional Drosrite™ systems, as the client's cash flow situation and their new business opportunities move closer to resolution.

Innovation Grants: as mentioned in the Q1 outlook on May 15 and Q2 outlook on August 10, the Company has applied for grants tailored to technology innovation and/or carbon reduction and expects to have results regarding these applications. While the results are ultimately positive for the Company, the Company is still awaiting formal government announcement of the grants before it is legally allowed to indicate specifics. These grants are in the order of $1-2 million.

Business Line Developments: Mid Term (3 – 6 months)

Aluminum Remelting Furnaces:

As mentioned in the Q2 Outlook for Q3, the Company has been working on the development of aluminum remelting furnace solutions using plasma, for use by secondary aluminum producers or any manufacturer of aluminum components that uses recycled or scrap aluminum.

With gas-fired furnaces responsible for much of the scope 1 emissions of secondary aluminum production, aluminum companies have been searching for solutions that can help in the decarbonization efforts of aluminum remelting and cast houses.

The Company has two concepts: the retro-fitting of plasma torches in existing remelting and cast house furnaces that currently use other forms of heating, such as natural gas; and the manufacturing and sale of a PyroGenesis produced furnace based off the Company's existing Drosrite metal recovery furnace design, which has been in use commercially for several years.

Also as mentioned in the Q2 Outlook, the Company has been working with a number of different companies over the past few years towards these goals. The results from the conclusion of recent major tests, conducted in conjunction with these companies, have been very positive, and negotiations are underway for next step deployments and sales, with announcements forthcoming. These negotiations continue, though we now anticipate this being a Q1 2024 initiative, if announced.

Fumed Silica Reactor ("FSR") Project:

Fumed Silica (also known as Pyrogenic Silica) is a particle-size food-safe additive with a large surface area, used worldwide as a thickening agent in thousands of products such as milkshakes, adhesives, powdered foods, paints, inks, cosmetics, and beverages, to increase strength, viscosity, and flow control.

PyroGenesis, on behalf of its client HPQ Silicon Inc., developed the Fumed Silica Reactor, a plasma-based process that creates fumed silica from quartz in a single and eco-friendly step. By eliminating the use of harmful chemicals generated by conventional fumed silica production methods, the groundbreaking FSR approach, if successful, will help contribute to the repatriation of silica production to North America while lowering the CO2 emissions and carbon footprint of the process.

In a major step towards commercial-scale production, PyroGenesis has successfully deployed [news release dated Oct 3, 2023] the FSR on a laboratory scale to produce fumed silica. A subsequent independent analysis [news release dated Nov 9, 2023] of the material conducted by McGill University confirmed the commercial-quality and thickening efficiency of the fumed silica produced by the FSR.

Next step is to build and launch a pilot plant in Q2 2024 for pre-commercial sample batch production.

In addition to being the engineering services provider and developer of the forthcoming pilot plant, PyroGenesis owns a 10% royalty of client HPQ's eventual fumed silica sales, with set minimums. This royalty stream, can, at any time, be converted by PyroGenesis into a 50% ownership in HPQ Silica Polvere Inc., the wholly owned subsidiary of HPQ Silicon that controls the fumed silica initiative and rights.

Please note that projects or potential projects previously announced that do not appear in the above summary updates should not be considered as at risk. Noteworthy developments can occur at any time based on project stages, and the information presented above is a reflection of information on hand. Projects not mentioned have simply not concluded or not passed milestones worthy of discussion.

Status as a dual-listed publicly traded Company

As part of the Company's proactive risk management strategy, the Company announced in its Q2 news release (Press Release dated August 10, 2023) that it was evaluating the costs and benefits of maintaining a dual listing on both Nasdaq and the TSX. That ongoing evaluation entailed an analysis of several key factors, including (i) the financial costs associated with being on each exchange, such as insurance costs, regulatory compliance costs, legal fees, and accounting fees, (ii) the volume of trading on both exchanges, and (iii) the regulatory and compliance requirements of each exchange.

As stated at the time, costs to PyroGenesis associated to its dual listing in the US are considerable, with incremental US-specific fees related to directors & officer insurance, legal, listing and filings, and accounting, of more than $2.2 million, which would require approximately $6-8 million in revenues.

Post quarter end, on October 27, 2023, after careful consideration, the Board of Director's decided and the Company announced it would be voluntarily delisting from the Nasdaq exchange. This decision would not affect its listing in Canada, and the Company would remain listed on the Toronto Stock exchange. In addition, the Company has taken steps to have its Shares quoted on the OTCQX Best Market.

The Company has initiated the Nasdaq delisting process and has filed a Form 25 with the SEC for the removal of its Shares from Nasdaq's listing. This Form is anticipated to become effective 10 days following its filling, resulting in the delisting of the Company's Shares from Nasdaq on or about November 16, 2023.

Administrative proceedings

As previously announced by the Company (see Press Release dated August 31, 2023), in August 2023, the Autorité des marchés financiers (the "AMF") initiated administrative proceedings against Mr. P. Peter Pascali, President and CEO, Mr. Alan Curleigh, Chair of the Board of Directors, and the Company with the Tribunal administratif des marchés financiers. The allegations largely relate to a series of connected transactions that occurred in 2018. The administrative penalty sought by the AMF and attributable to the Company is $550,000. The Company remains of the view that the AMF's allegations are without merit and, like Mr. Pascali and Mr. Curleigh, the Company looks forward to having the opportunity to defend itself, and be vindicated, before the tribunal.

FURTHER INFORMATION

Additional information relating to Company and its business, including the 2022 consolidated Financial Statements, the Annual Information Form and other filings that the Company has made and may make in the future with applicable securities authorities, may be found on or through SEDAR+ at www.sedarplus.ca, EDGAR at www.sec.gov or the Company's website at www.pyrogenesis.com.

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans, is also contained in the Company's most recent management information circular for the most recent annual meeting of shareholders of the Company.

Form 52-109F2
Certification of Interim Filings
Full Certificate

I, P. Peter Pascali, Chief Executive Officer of PyroGenesis Canada Inc., certify the following:

1. ***Review:*** I have reviewed the interim financial report and interim MD&A (together, the “interim filings”) of PyroGenesis Canada Inc. (the “issuer”) for the interim period ended September 30, 2023.

2. ***No misrepresentations:*** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.

3. ***Fair presentation:*** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.

4. ***Responsibility:*** The issuer’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers’ Annual and Interim Filings*, for the issuer.

5. ***Design:*** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer’s other certifying officer(s) and I have, as at the end of the period covered by the interim filings

(a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that

(i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and

(ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and

(b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer’s GAAP.

5.1 ***Control framework:*** The control framework the issuer’s other certifying officer(s) and I used to design the issuer’s ICFR is the Internal Control – Integrated Framework (2013 COSO Framework) published by The Committee of Sponsoring Organizations of the Treadway Commission.

5.2 ***ICFR – material weakness relating to design:*** The issuer has disclosed in its interim MD&A for each material weakness relating to design existing at the end of the interim period

(a) a description of the material weakness;

(b) the impact of the material weakness on the issuer's financial reporting and its ICFR; and

(c) the issuer's current plans, if any, or any actions already undertaken, for remediating the material weakness.

5.3 ***Limitation on scope of design:*** N/A

6. ***Reporting changes in ICFR:*** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on July 1, 2023, and ended on September 30, 2023, that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: November 9, 2023

(signed) P. Peter Pascali
P. Peter Pascali
Chief Executive Officer

Exhibit 99.5

Form 52-109F2
Certification of Interim Filings
Full Certificate

I, Andre Mainella, Chief Financial Officer of PyroGenesis Canada Inc., certify the following:

1. ***Review:*** I have reviewed the interim financial report and interim MD&A (together, the "interim filings") of PyroGenesis Canada Inc. (the "issuer") for the interim period ended September 30, 2023.

2. ***No misrepresentations:*** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.

3. ***Fair presentation:*** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.

4. ***Responsibility:*** The issuer's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings,* for the issuer.

5. ***Design:*** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer's other certifying officer(s) and I have, as at the end of the period covered by the interim filings

   (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that

      (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and

      (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and

   (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP.

5.1 ***Control framework:*** The control framework the issuer's other certifying officer(s) and I used to design the issuer's ICFR is the Internal Control – Integrated Framework (2013 COSO Framework) published by The Committee of Sponsoring Organizations of the Treadway Commission.

5.2 ***ICFR – material weakness relating to design:*** The issuer has disclosed in its interim MD&A for each material weakness relating to design existing at the end of the interim period

   (a) a description of the material weakness;

(b) the impact of the material weakness on the issuer's financial reporting and its ICFR; and

(c) the issuer's current plans, if any, or any actions already undertaken, for remediating the material weakness.

5.3 ***Limitation on scope of design:*** N/A

6. ***Reporting changes in ICFR:*** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on July 1, 2023, and ended on September 30, 2023, that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: November 9, 2023

(signed) Andre Mainella
Andre Mainella
Chief Financial Officer