



PyroGenesis Announces 2023 Third Quarter Results

November 9, 2023

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:*

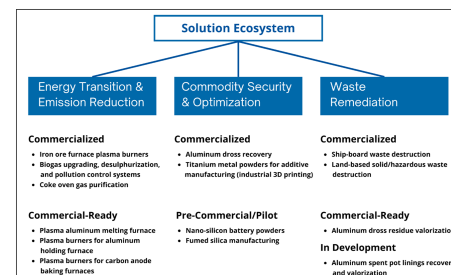
- recovery of viable metals, and optimization of production methods/processes geared to increase output, maximize raw materials and improve availability of critical minerals,

3. *Waste Remediation:*

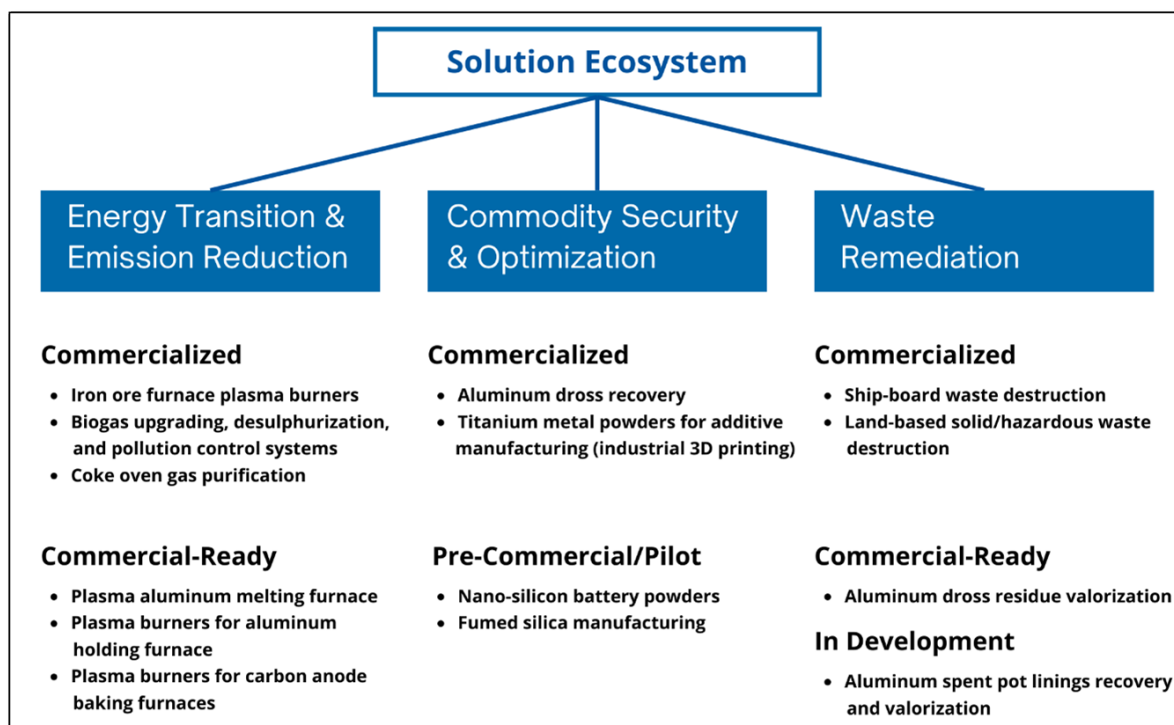
- safe destruction of hazardous materials, and the recovery and valorization of underlying substances such as chemicals and minerals.

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

Solution Ecosystem



Solution Ecosystem



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

New Industry Contract for Plasma Torches: 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 powders 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 Directors 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 filing, 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.

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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>