



PyroGenesis Announces 2023 Second Quarter Results

August 10, 2023

- The Company continues to expand into new markets and reach full commercialization goals, while maintaining a healthy 37% gross margin.

MONTREAL, Aug. 10, 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 second quarter ended June 30, 2023.

"Despite a relatively flat quarter and the continued fluctuations in our quarterly revenues that we had previously acknowledged as possible, we remain confident in our long-term strategy. The opportunities for the Company across the large-scale industrial technology and industrial decarbonization landscapes are significant," said Mr. P. Peter Pascali, CEO and President of PyroGenesis. "The barriers to entry for gaining a foothold in these markets has always been high, from both a technology and resource perspective – particularly in the energy transition segments, where fundamental structural change to long-established underlying energy and fuel systems are conducted with measured and exacting processes, and where delays are common. We firmly believe that this is where our close to thirty years of R&D, and our long-standing industry relationships, provide a long-term advantage, as we persist in-step with these trends which have been exacerbated by the uncertain economic environment that continues to create volatility in the capital markets."

"Against much larger competitors, and by using our globally recognized expertise in ultra-high temperature processes such as plasma, along with robust client relationship building, we continue to experience successes that have enabled us to push past the barriers to entry in several of our strategic business lines," continued Mr. Pascali. "Commercialization results in titanium metal powders, and the opening of new markets for higher power plasma torches (such as the contract which we recently announced with a defense and aeronautics contractor for a next tier 4.5MW plasma torch), underscores that the strategy to maintain our focus on developing technologies and solutions that we believe are certain to 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 – is key to securing PyroGenesis' future."

"Despite the quarterly ups and downs, our commitment to supporting heavy industry with customer-ready, low carbon-footprint technology solutions, remains steadfast," Mr. Pascali added. "Our backlog of signed and/or awarded contracts remains strong, at \$33.9 million. Our 37% gross margin is fully in line with the industrial machinery and components industry¹ and well ahead of the gross margins for the industries we serve, such as aluminum², iron and steel³, and even aerospace and defense⁴. We look forward to the remainder of 2023 as our business strategy continues to gain traction."

The information below represents important highlights from the past quarter, followed by an outline of the company's strategy and outlook for the next quarter.

Q2 Production Highlights

In Q2 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 solution ecosystem under three verticals 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:

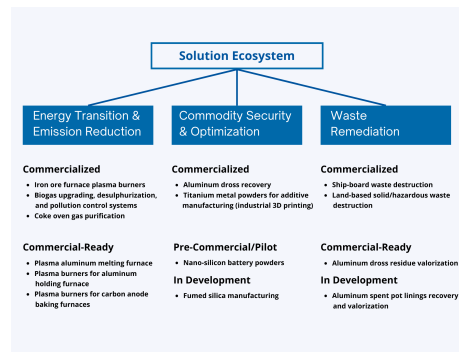
- recovery of viable metals, and optimization of production to increase output, to maximize raw materials and improve availability of critical minerals,

3. Waste Remediation:

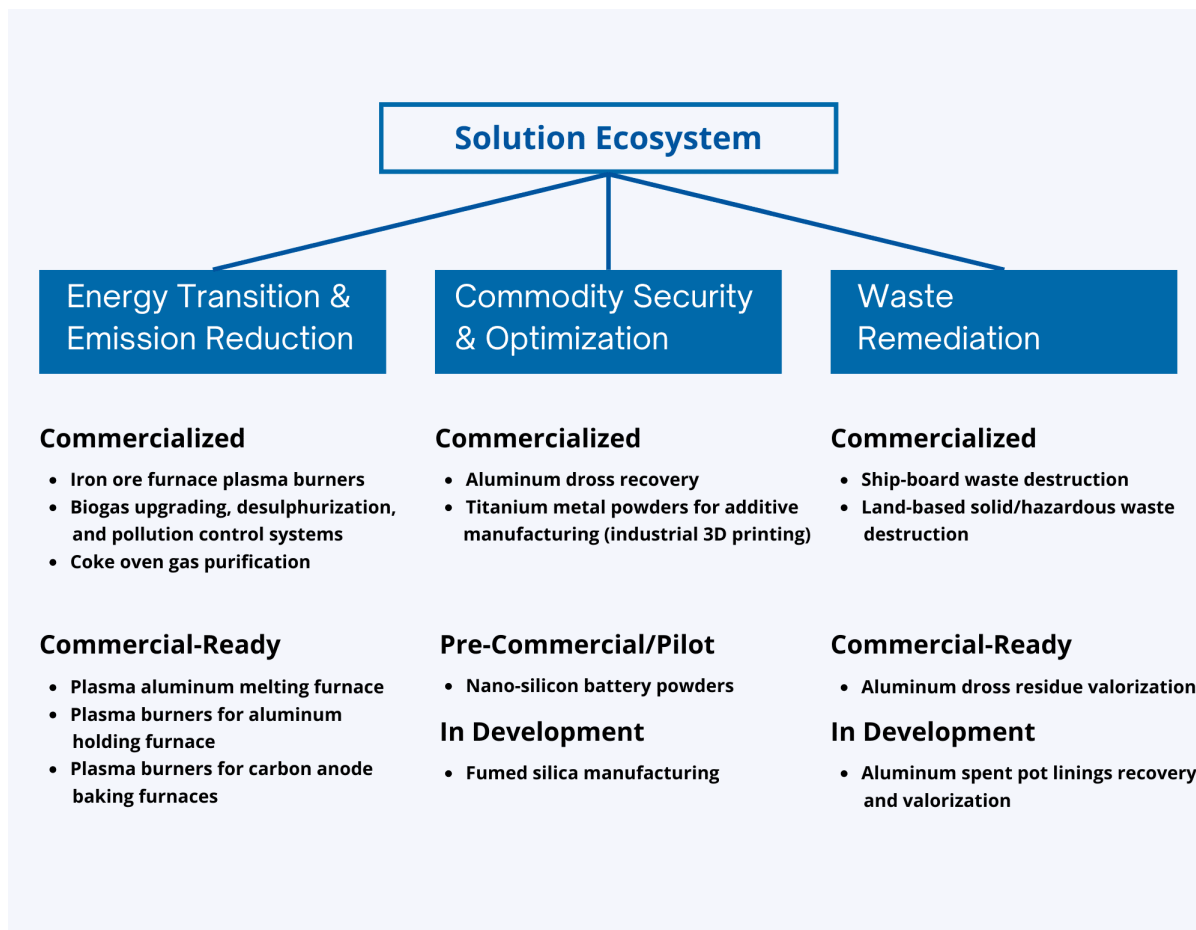
- safe destruction of hazardous materials, and the recovery and valorization of underlying substances such as chemicals and minerals.

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

Solution Ecosystem



Solution Ecosystem



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

1. Energy Transition & Emission Reduction

- In May, the [Company announced](#) that its subsidiary, [Pyro Green-Gas](#), had successfully completed the integrated cold test (ICT) step under a [previously announced \\$9.3 million project](#), with a key client – one of the world's top diversified steel producers.

The ICT completion marks a significant milestone towards the completion of the overall project, where Pyro Green-Gas has been mandated to (i) supply coke oven gas purification solutions and (ii) hydrogen production processes that have combined the potential to allow for the extracting of hydrogen with a 99.999% purity level and improve the client's environmental outcome. The ICT confirms that all systems, equipment and their components meet and exceed the required operation and safety standards.

With the implementation of Pyro Green-Gas' hydrogen extraction technology, the client would be able to rely on a cleaner energy source for its annealing, galvanizing and acid recovery processes, furthering its efforts to reduce its carbon footprint.

2. Commodity Security & Optimization

- In May, the [Company announced](#) a [major corporate breakthrough with its first commercial by-the-tonne order for titanium metal powder](#) for use in industrial 3D printing, commonly known as additive manufacturing. The contracted order for 5 metric tonnes (or 5,000 kg) also had a provisional order for an additional 6 tonnes.

The order is to be completed using PyroGenesis' NexGen™ plasma atomization system, from the Company's metal powder production facility in Montreal, Quebec. The client is an advanced materials company in the United States, who has requested anonymity.

[As noted at the time](#) by Massimo Dattilo, VP PyroGenesis Additive, this order represents the Company's "full entrance into the titanium metal powders marketplace".

- In June, the [Company announced](#) an achievement regarding its GEN3 PUREVAP™ Quartz Reduction Reactor (QRR) pilot plant (the "GEN3 PUREVAP™ Pilot Plant" or the "Pilot Plant") project, with [material produced by the pilot plant receiving successful laboratory validation of quartz to high-purity 3N+ silicon in one step](#). During test #5, the pilot plant achieved an average silicon purity (%) of 99.92% across two separate tests. This outcome validates the capability of the QRR process to surpass the minimum purity requirement of 3N needed for battery-grade silicon.

The PUREVAP™ process is an innovative patented process that will enable the one-step conversion of quartz (SiO₂) into high-purity silicon (Si) at reduced costs, energy input and carbon footprint that will propagate its considerable renewable energy potential. [As noted at the time in the client's news release](#), silicon (Si), also known as silicon metal, is a key strategic material needed for the decarbonization of the economy and the Renewable

Energy Revolution ("RER"). However, silicon does not exist in its pure state and must be extracted from quartz (SiO_2) in what has historically been a capital and energy-intensive process.

The Client, [HPO Silicon Inc. \(TSX-V: HPO\)](#) is an advanced materials engineering provider that offers sustainable silica (SiO_2) and silicon (Si) solutions. Based in Quebec, HPQ Silicon is developing a unique portfolio of value-added silicon products sought after by electric vehicle and battery manufacturers, among other industries. PyroGenesis is the engineering and development producer, but also, as part of the terms of the contract with HPQ, PyroGenesis benefits from a royalty payment representing 10% of the Client's sales, with set minimums.

3. Waste Remediation

- In June, the Company [signed two contracts](#) with Aluminerie Alouette, for [projects to valorize residue streams from primary aluminum smelters](#). Alouette, located in Quebec, is home to the largest aluminum smelter in the Americas.

The first contract is to further advance a spent pot lining (or SPL) valorization technology, [originally announced in March of 2021](#) upon receipt of a research grant to study the concept. Pot linings are the insulating carbon material that helps enable electrical conductivity inside an aluminum smelter cell or pot, for the process of turning aluminum oxide into aluminum. This lining typically has an average lifespan of 5 years, after which it eventually fails from continuous use, causing the spent pot to be put out of service and the highly contaminated linings to be removed.

PyroGenesis' SPL remediation technology has now advanced to the point where full participation of Alouette in partnership with PyroGenesis has commenced. [An estimated 1.5 million tons of spent pot linings are produced annually worldwide](#). If PyroGenesis' proposed process proves successful, it could address a major issue concerning the aluminum industry. The second contract is geared to develop a new valorization solution for excess electrolytic bath. In both instances, the materials, while dangerous, if processed correctly can be recovered and reused by the primary aluminum producer.

Both projects have a commercial end goal with a strategy to market the solutions industry-wide in conjunction with Aluminerie Alouette.

Q2 Financial Highlights

- In May, the [Company announced](#) the receipt of a \$2 million payment (US\$1.5 million) under its existing \$25 million Drosrite™ contract with Drosrite International LLC, which was in turn contracted by Radian Oil and Gas Services Company for an order of 7 Drosrite™ aluminum dross recovery systems.

The first three Drosrite™ systems are in use at Ma'aden, the largest mining company in the Kingdom of Saudi Arabia, at their Ras Al-Khair location – the world's largest integrated aluminum facility. The remaining four systems under the contract have already been manufactured and are ready for deployment subject to a renewed payment schedule.

- In June, the [Company announced](#) a "best-efforts" [brokered private placement offering](#) of up to 5,000 unsecured convertible debenture units of the Company (the "Convertible Debenture Units") at a price of \$1,000 per Debenture Unit, for proceeds of up to \$5,000,000 (the "Offering"). In connection with the Offering, P. Peter Pascali, President, CEO, and Director subscribed to \$2,000,000 of Convertible Debenture Units. The Company indicated it intends to use the net proceeds from the Private Placement for working capital and general corporate purposes.

- In July, the [Company announced](#) [amended terms of the brokered private placement](#), and also in July [subsequently announced](#) final closing of the placement.

Q2 Operational Highlights

- In May, the [Company announced](#) receipt of a 180-day extension to meet the Nasdaq minimum US\$1 bid requirement under NASDAQ Listing Rule 5550(a)(2).

OUTLOOK

Consistent with the Company's past practice, and in view of the early stage of market adoption of our core lines of business, we are not providing specific revenue or net income (loss) guidance for 2023. However, various events have occurred that allow for a partial window into the remainder of 2023.

Overall Strategy

PyroGenesis provides technology solutions to heavy industry that leverage off of the Company's proprietary position and expertise in ultra-high temperature processes. The Company has evolved from its early roots 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 timely, as multiple heavy industries are committing to major carbon and waste reduction targets at the same time as many governments are increasingly funding environmental technologies and infrastructure projects – all while both are making efforts to ensure the availability of critical minerals during the coming decades of increased output demand.

While there can be no guarantee, the Company believes this evolution of its strategy beyond a greenhouse gas emission reduction emphasis, to an expanded focus that encapsulates the key verticals listed above, both improves the Company's chances for success while 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 remains large, 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, and 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: *energy transition & emission reduction; commodity security & optimization; and waste remediation.*

Some key developments to that end, include:

Enhanced Sales and Marketing

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

In May, during the Company's annual general meeting (AGM), the Company released a new corporate presentation that provides a significantly better representation of the Company, its technology offerings, and alignment to customer needs.

The Company intends to develop additional visual material throughout 2023.

Business Line Developments

Upcoming milestones which are expected to confirm the validity of our strategies, are as follows:

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

(i) 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 very positive, both in regards to the ongoing payment plan, and in regards to a potential substantial new order of additional Drosrite™ systems, as the client's cash flow pressures and their new business opportunities move closer to resolution.

Innovation Grants: as mentioned in the Q1 outlook on May 15 the Company has applied for grants tailored to technology innovation and/or carbon reduction, and expects to have results regarding these applications. This situation has progressed very positively, and the Company is awaiting formal government announcement of the grants before it is legally allowed to indicate specifics.

(ii) Commodity Security & Optimization

Negotiations for Multiple Metal Powder Orders: Negotiations with companies for commercial orders of the Company's metal powders continues, as projected within the Company's Q1 outlook for Q2. As noted above, in Q2 the Company announced a first by-the-tonne contract for titanium metal powder of 5 metric tonnes, with an option for 6 additional tonnes.

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. This project continues to move forward positively.

(iii) Energy Transition & Emission Reduction

Plasma Torch Order: As mentioned in the Q1 outlook for Q2, on May 15, the Company was in advanced discussions with an international entity, whereby a plasma torch contract, if signed, would be between \$3-\$4 million. Post quarter end, on August 1, 2023, the Company received a signed contract for this project, for \$4.1 million, with a confidential US-based aeronautics and defense client.

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). "Client B" is the customer to whom 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.

This project continues to move forward. The Client recently suffered a series of unfortunate technical events that caused delays of several weeks, as a result of damaging regional torrential rain storms and flooding that caused significant impairment to 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 or sooner.

Pyro Green-Gas: The Company's wholly-owned subsidiary is expected to sign a contract with an approximate value of between \$10-\$15 million in connection with a renewable natural gas project.

Aluminum Remelting Furnaces: 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.

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.

Status as a Dual-Listed Publicly Traded Company

As part of the Company's proactive risk management strategy, it is currently evaluating the costs and benefits of maintaining a dual listing on both Nasdaq and the TSX. This ongoing evaluation entails 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.

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.

The Company has until November 20, 2023 to regain the Nasdaq's minimum US\$1 bid compliance for ten consecutive trading days. Management will continue to monitor the situation and conduct its analysis, and will provide material updates as they occur.

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.

Financial Summary

Revenues

PyroGenesis recorded revenue of \$3.0 million in the second quarter of 2023 ("Q2, 2023"), representing a decrease of \$2.8 million compared with \$5.8 million recorded in the second quarter of 2022 ("Q2, 2022"). Revenue for the six-month period ended June 30, 2023, was \$5.6 million, a decrease of \$4.4 million over revenue of \$10.1 million compared to the same period in 2022.

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

Revenues recorded in Q2 2023 were generated primarily from:

- PUREVAP™ related sales of \$445,840 (2022 Q2 - \$820,972)
- DROSRITE™ related sales of \$115,325 (2022 Q2 - \$436,538)
- Development and support services related to systems supplied to the US Navy \$813,125 (2022 Q2 - \$591,099)
- Torch related sales of \$561,942 (2022 Q2 - \$1,707,152)
- Refrigerant destruction (SPARC™) related sales of \$187,444(2022 Q2 – \$0)
- Biogas upgrading & pollution controls of \$618,070 (2022 Q2 - \$2,181,107)
- Other sales and services \$297,733 (2022 Q2 - \$110,312)

Q2, 2023 revenues decreased by \$2.8 million, mainly as a result of:

- PUREVAP™ related sales decreased by \$0.4 million due to the completion of the project and initial phase of testing, with additional three-month testing requested by the customer and currently ongoing,
- DROSRITE™ related sales decreased by \$0.3 million due to continued customer delays in funding for the construction of the onsite facility. Based on the customers updated projected schedule and ongoing positive discussions, the new expectation aims to have the equipment installed, commissioned and fully operational by end of the year,
- Torch-related products and services decreased by \$1.1 million, due to the final phase of the project being completed with the installation and commissioning at the customers facility. Three-month onsite support currently ongoing and scheduled to be completed by the end of the third quarter, with an option to extend to six and nine-month support at the discretion of the customer,
- Biogas upgrading and pollution controls related sales decreased by \$1.6 million due to continuous testing to achieve desired results and due to the Company's Italian subsidiary and a customer who both agreed on the completion of the project during the first quarter of 2023, with no additional revenues recorded by the Company's Italian subsidiary for Q2, 2023 (\$0.9 million – Q2, 2022),

During the six-month period ended June 30, 2023, revenues decreased by \$4.4 million, mainly as a result of:

- PUREVAP™ related sales decreased by \$0.2 million due to the completion of the project and initial phase of testing,
- 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,
- Development and support related to systems supplied to the U.S Navy decreased by \$0.2 million due to remaining project

milestones mainly related to inspection, packaging and shipment of the equipment to our customer in order to move forward with installation and commissioning,

- Torch-related products and services decreased by \$0.9 million, due to the final phase of the project being completed with the installation and commissioning at the customers facility. Three-month onsite support currently ongoing and scheduled to be completed by the end of the third quarter, with an option to extend to six and nine-month support at the discretion of the customer,
- Biogas upgrading and pollution controls related sales decrease of \$2.5 million is due to continuous testing to achieve desired results and due to the Company's Italian subsidiary and a customer who both agreed on the completion of the project during the first quarter of 2023, with no additional revenues recorded by the Company's Italian subsidiary for the six-month period ended June 30, 2023 (\$1.2 million – six-month period ended June 30, 2022),

As of August 10, 2023, revenue expected to be recognized in the future related to backlog of signed and/or awarded contracts is \$33.9 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 and Gross Margins

Cost of sales and services were \$1.9 million in Q2 2023, representing a decrease of \$1.4 million compared to \$3.3 million in Q2, 2022, primarily due to a decrease of \$0.1 million in subcontracting (Q2, 2022 - \$0.4 million), attributed to additional work being completed in-house, a decrease in direct materials and manufacturing overhead & other of \$1.3 million and \$0.4 million, respectively (Q2, 2022 - \$1.6 million and \$0.7 million), due to lower levels of material required based on the decrease in product and service-related revenues.

The gross margin for Q2, 2023 was \$1.1 million or 37% of revenue compared to a gross margin of \$2.5 million or 43% of revenue for Q2 2022, the decrease in gross margin was mainly attributable to the impact on foreign exchange charge on materials.

During the six-month period ended June 30, 2023, cost of sales and services were \$4.0 million compared to \$6.5 million for the same period in the prior year, the \$2.5 million decrease is primarily due to a decrease of \$0.8 million in subcontracting (six-month period ended June 30, 2022 - \$1.0 million), attributed to additional work being completed in-house, a decrease in direct materials and manufacturing overhead & other of \$1.8 million and \$0.3 million respectively (six-month period ended June 30, 2022 - \$2.7 million and \$0.9 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 \$0.2 million.

The amortization of intangible assets for Q2, 2023 was \$0.2 million compared to \$0.2 million for Q2, 2022, and during the six-month period ended June 30, 2023, was \$0.4 million compared to \$0.4 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

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 Q2, 2023 were \$6.4 million, representing a decrease of \$0.7 million compared to \$7.1 million for Q2, 2022. The decrease is mainly a result of share-based compensation expense decreased by \$0.9 million (Q2, 2022 - \$1.6 million), which is a non-cash item and relates mainly to a Q4 2021, and 2022 grants not repeated in 2023. Professional fees are \$1.0 million which decreased by \$0.8 million (Q2, 2022 - \$1.7 million), due to reduction in accounting fees, legal and investor relation expenses. Other expenses were favourable by \$0.5 million (Q2, 2022 - \$1.3 million) due to a net reduction of insurance expenses, interest and bank charges. Government grants are \$0.2 million which increased by \$0.2 million (\$Q2, 2022 – \$0.06 million) due to higher levels of activities supported by such grants. The expected credit loss & bad debt increased to \$0.7 million in Q2, 2023 and is due to an increase in the allowance for expected credit loss, whereby no such expense was recorded in the comparable period.

During the six-month period ended June 30, 2023, SG&A expenses were \$14.0 million, representing an increase of \$1.3 million compared to \$12.7 million for the same period in the prior year. The increase is mainly a result of employee compensation increasing to \$5.1 million (six-month period ended June 30, 2022 - \$3.5 million) mainly caused by additional headcount. Expected credit loss & bad debt increased to \$2.1 million and is due to an increase in the allowance for expected credit loss increase of \$2.1 million and the increase of the impact on foreign exchange charge on materials of \$0.3 million, offset by the decreases of \$0.2 million in professional fees which are \$2.2 million, compared to \$2.4 million in the comparable period, and the decrease in other expenses to \$1.6 million from \$2.4 million, a variation of \$0.7 million, compared to the six-month period ended June 30, 2022.

Share-based compensation expense for the three and six-month periods ended June 30, 2023, was \$0.7 million and \$1.7 million, respectively (six-month period ended June 30, 2022 - \$1.6 million and \$3.3 million, respectively), a decrease of \$0.9 million and \$1.6 million respectively, which is a non-cash item and relates mainly to a Q4 2021, and 2022 grants not repeated in 2023.

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

The depreciation on property and equipment for the three and six-month periods ended June 30, 2023, increased to \$0.2 million and \$0.3 million, respectively, compared with \$0.1 million and \$0.3 million for the same periods in the prior year. The expense is comparable to the same quarters last

year and the increase is primarily due to nature and useful lives of the property and equipment being depreciated.

Research and Development (“R&D”) Expenses

During the three-months ended June 30, 2023, the Company incurred \$0.7 million of R&D costs on internal projects, a decrease of \$0.06 million as compared with \$0.8 million in Q2, 2022. The decrease in Q2, 2023 is primarily related to a decrease in subcontracting and materials and equipment to \$0.1 million (Q2, 2022 - \$0.5 million), which is also attributable to the increase in employee compensation to \$0.4 million (Q2, 2022 - \$0.2 million) due to an increase in R&D activities which required additional labour resources and other expenses of \$0.2 million related to equipment rentals compared to \$0.1 million in Q2, 2022, an increase of \$0.1 million.

During the six-months ended June 30, 2023, the Company incurred \$1.1 million of R&D costs on internal projects, a decrease of \$0.2 million as compared to \$1.3 million for the same period in the prior year. The decrease is mainly due to lower levels of R&D activities requiring subcontracting and material and equipment, decreasing to \$0.2 million as compared with \$0.7 million, a decrease of \$0.5 million, which is offset by the increase in other expenses to \$0.4 million compared to \$0.2 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).

Financial Expenses

Finance costs for Q2 2023 represent an income of \$0.9 million as compared with an expense of \$0.2 million for Q2, 2022, representing a favourable variation of \$1.1 million year-over-year. The decrease in finance expenses in Q2 2023, is primarily due as the Company determined that a milestone related to the business combination would not be achieved and therefore, a reversal of the liability was recorded.

During the six-month period ended June 30, 2023, the finance costs represent an income of \$1.8 million as compared with an expense of \$0.3 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 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

During the three-months ended June 30, 2023, the adjustment to fair market value of strategic investments for Q2, 2023 resulted in a loss of \$1.2 million compared to a loss in the amount of \$7.5 million in Q2, 2022, a favorable variation of \$6.2 million.

During the six-months ended June 30, 2023, the adjustment to fair market value of strategic investments resulted in a loss of \$0.9 million compared to a loss in the amount of \$6.3 million for the same period in the prior year, a favorable variation of \$5.4 million. The decrease in loss for the three and six-month periods ended June 30, 2023, is attributable to the variation of the market value of the common shares and warrants owned by the Company of HPQ Silicon Inc.

Comprehensive Loss

The comprehensive loss for Q2, 2023 of \$6.3 million compared to a loss of \$13.0 million, in Q2, 2022, represents a variation of \$6.7 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 \$2.8 million arising in Q2, 2023,
- a decrease in cost of sales and services of \$1.4 million, primarily due to a decrease in subcontracting, direct materials, and manufacturing overhead and other, offset by the increase in employee compensation, foreign exchange charge on materials, and amortization of intangible assets,
- a decrease in SG&A expenses of \$0.7 million arising in Q2, 2023, was primarily due to a decrease in professional fees, office and general and other expenses, offset by increases in employee compensation, travel, depreciation of property and equipment, depreciation of ROU assets, foreign exchange charge on materials, and the allowance for credit loss of \$0.7 million,
- a decrease in share-based expenses of \$0.9 million
- a decrease in R&D expenses of \$0.06 million primarily due to a decrease in subcontracting, materials and equipment, and an increase in employee compensation, investment tax credits and other expenses,
- a decrease in finance costs (income), net of \$1.1 million in Q2, 2023 primarily due to the revaluation of balance due on business combination,
- a favourable variation in the fair market value of strategic investments of \$6.2 million,
- a decrease in income taxes of \$0.02 million in Q2, 2023.

The comprehensive loss for the six-month period ended June 30, 2023, of \$12.5 million compared to a loss of \$17.1 million, for the same period in the prior year, represents a variation of \$4.6 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 \$4.4 million,
- a decrease in cost of sales and services of \$2.5 million, primarily due to a decrease in subcontracting, direct materials, manufacturing overhead and other, and investment tax credits, offset by the increase in employee compensation foreign exchange charge on materials, and amortization of intangible assets,
- an increase in SG&A expenses of \$1.3 million was primarily due to an increase in employee compensation, travel,

depreciation in property and equipment, foreign exchange charge on materials, and the allowance for credit loss of \$2.1 million which is offset by a decrease in professional fees, office and general, and other expenses,

- a decrease in share-based expenses of \$1.6 million
- a decrease in R&D expenses of \$0.2 million primarily due to a decrease in subcontracting and material and equipment and an increase in employee compensation, investment tax credits and other expenses,
- a decrease in net finance costs (income) of \$2.2 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 \$5.4 million,
- a decrease in income taxes of \$0.08 million.

Liquidity and Capital Resources

As at June 30, 2023, the Company had cash of \$0.8 million, included in the net working capital deficiency of \$3.2 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 June 30, 2023 was \$391,564, 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. The average interest expense on the other term loans was 7.2% in the period. 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 7.95% at June 30, 2023. The Company reimbursed a portion of the credit facilities during Q2 2023, and extended the due date of the remaining balance, while maintaining the similar conditions.

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.sedar.com, 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.sedar.com, 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/>

¹ https://csimarket.com/Industry/industry_Profitability_Ratios.php?ind=207

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³ https://csimarket.com/Industry/industry_Profitability_Ratios.php?ind=107

⁴ https://csimarket.com/Industry/industry_Profitability_Ratios.php?ind=201

A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/8558cbbd-e9ed-45db-8b9b-69bdfa486a6>