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

**FORM 6-K**

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

**For the month of October 2022**

Commission File Number: **001-39989**

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

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

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

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_

**Note:** Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): \_\_\_\_

**Note:** Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

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On October 6, 2022, the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

#### EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
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<a href="#">99.1</a>	<a href="#">Press Release dated October 6, 2022</a>
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## SIGNATURES

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

PYROGENESIS CANADA INC.

(Registrant)

Date: October 6, 2022

/s/ P. Peter Pascali

P. Peter Pascali  
Chief Executive Officer

## PyroGenesis' Gen3 PUREVAP™ QRR Pilot Plant is Installed, Commissioned, Powered up, and Moves to Operational Testing for HPQ Silicon Inc.

MONTREAL, Oct. 06, 2022 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY), a high-tech company (hereinafter referred to as the "Company" or "PyroGenesis"), that designs, develops, manufactures and commercializes advanced plasma processes and sustainable solutions to reduce greenhouse gases (GHG) and address environmental pollutants, is pleased to confirm, that further to HPQ Silicon Inc's ("HPQ" or the "Client") press release of earlier today, the Gen3 PUREVAP™ Quartz Reduction Reactor (QRR) pilot plant (the "Gen3 PUREVAP™ Pilot Plant" or the "Pilot Plant") has completed the month-long power-up process and is initiating its ground-breaking one-step transformation of quartz into high purity silicon, for the testing phase.

The GEN3 PUREVAP™ QRR pilot plant, the first state-of-the-art prototype of its kind, includes multiple systems that must operate under harsh conditions, at extremely high temperatures and under vacuum. It has now entered a test phase, which consists of a series of optimization and repeatability tests, with the ultimate goal of transforming quartz into high purity silicon.

"Completing the power-up and initiating operational testing of the pilot plant represents a major milestone in our relationship with HPQ and demonstrates our commitment to advancing the PUREVAP™ project while also underscoring our ability and dedication to bring real-world concepts from the lab to commercialization," said Mr. P. Peter Pascali, CEO and Chair of PyroGenesis. "Recent market events have drawn attention to the fact that silicon (Si), is one of the key strategic energy metals needed to achieve the goal of decarbonizing the economy by 2050. We could not be more proud to be a part of, and play an important role in, the development of GHG reduction technology. We firmly believe that the PUREVAP™ process will prove to be a game changer, and an enabling technology. "

The PUREVAP™ process is an innovative process that will enable the one-step conversion of quartz (SiO<sub>2</sub>) into high-purity silicon (Si) at reduced costs, energy input and carbon footprint that will propagate its considerable renewable energy potential. 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.

### About HPQ Silicon

HPQ Silicon Inc. (TSX-V: HPQ) is a Quebec-based innovative silicon solutions company that offers innovative silica (SiO<sub>2</sub>), silicon (Si) based solutions and is developing a unique portfolio of high value-added silicon (Si) products sought after by battery and electric vehicle manufacturers.

Silicon (Si), also known as silicon metal, is one of today's key strategic materials 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<sub>2</sub>) in what has historically been a capital and energy-intensive process.

With PyroGenesis, HPQ is developing:

1. the **PUREVAP™ "Quartz Reduction Reactors" (QRR)**, an innovative process (patent pending), which will permit the one-step transformation of quartz (SiO<sub>2</sub>) into high purity silicon (Si) at reduced costs, energy input, and carbon footprint that will propagate its considerable renewable energy potential.
2. Through its 100% owned subsidiary, HPQ NANO Silicon Powders Inc., the **PUREVAP™ Nano Silicon Reactor (NSiR)** is a new proprietary process that can use material produced by the QRR as feedstock, to make a wide range of nano/micro spherical powders of different sizes and nanowires.
3. Through its second 100% owned subsidiary, HPQ Silica POLVERE Inc., HPQ is developing a new plasma-based process that will allow a direct Quartz to Fumed silica transformation, removing the usage of hazardous chemical in the making of Fumed silica and eliminating the Hydrogen Chloride Gas (HCl) associated with its manufacturing.

### About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a 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 multiple multibillion dollar 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 m<sup>2</sup> and 2,940 m<sup>2</sup> manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. For more information, please visit: [www.pyrogenesis.com](http://www.pyrogenesis.com).

*This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Corporation's current expectation and assumptions and are subject to a number of risks and uncertainties that could*

*cause actual results to differ materially from those anticipated. These forward-looking statements involve risks and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Corporation with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Corporation's ongoing filings with the securities regulatory authorities, which filings can be found at [www.sedar.com](http://www.sedar.com), or at [www.sec.gov](http://www.sec.gov). Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Corporation undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, 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.*

SOURCE PyroGenesis Canada Inc.

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