



## **HPQ FILES PATENT APPLICATION FOR NEW CONTINUOUS SiO<sub>x</sub> MANUFACTURING PROCESS BASED ON ITS PUREVAP™ QRR TECHNOLOGY**

**MONTREAL, Canada, November 17<sup>th</sup>, 2023** — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#)) ([OTCQB: HPQFF](#)) ([FRA: O08](#)), a technology company specializing in green engineering processes for silica and silicon material production is pleased to update shareholders on a recent patent filing related to its “Silicon-based anode material initiative.”

HPQ filed a new provisional patent application in France related to a continuous Silicon Oxide (SiO<sub>x</sub>) manufacturing process based on a modified PUREVAP™ QRR design. As per French law, HPQ acquired all rights held by the inventors for C\$90,000.00. The patent protects a unique QRR technology configuration that allows the production of SiO<sub>x</sub> on the same equipment.

### **PATENT EXPANDS QRR TECHNOLOGY, WITH MINIMAL DEVELOPMENT RISK**

The new patented process has a significant advantage over the standard process in that it enables continuous production of SiO<sub>x</sub>, whereas the latter is produced in batches. The proposed process can be applied to the QRR without major changes in reactor design, reducing the technological development risks. Additionally, it is worth noting that the price of SiO<sub>x</sub> is approximately 2 to 3 times more expensive than silicon of the same purity [1].

*“This new patent application enhances our value proposition for Silicon-Based Anode materials,” said Mr. Bernard Tourillon, President and CEO of HPQ Silicon Inc. “Our unique PUREVAP™ QRR technology, as you know, can convert quartz into a low carbon 3N+ Si in a single step. A modified PUREVAP™ QRR will leverage this 3N+ Si to produce SiO<sub>x</sub>, which, as you also know, is highly coveted by the battery industry.”*

### **SILICON OXIDE (SiO<sub>x</sub>) MATERIALS FOR LITHIUM BATTERIES**

Silicon suboxides (SiO<sub>x</sub>) are a promising anode material with high lithium storage capacity. Adding small amounts of silicon oxide to graphite composite electrodes has become a significant trend in the lithium battery industry [2]. This has driven demand for silicon anode materials, which are estimated to reach a potential demand of 300,000 tons by 2030 [3]. The selling price for silicon-based anode materials ranges from US\$30 per kg to US\$50 per kg [4].

*“The growing importance of SiO<sub>x</sub> material, which necessitates 3N+ Purity Silicon feedstock for its production, in the burgeoning multi-billion-dollar battery material market, is a fact that cannot be emphasized enough,” added Mr. Tourillon.*

### **OTHER NEWS: FIRST CLOSING OF PRIVATE PLACEMENT**

HPQ completed a first closing of its Non-Brokered Private placement financing announced on October 16, 2023, for 1,225,000 units at a price of \$0.275 per unit for a gross proceed of \$337,012.50.

Each Unit is comprised of one (1) common share and one (1) common share purchase warrant of the Company. Each Warrant will entitle the holder thereof to purchase one common share of the capital stock of the Company at an exercise price of \$ 0.30 for a period of 24 months from the date of closing of the placement. Each share issued pursuant to the placement will have a mandatory four (4) month and one (1) day holding period from the date of closing of the placement.

Mr. Bernard Tourillon, Chairman, President, CEO and Director of HPQ, subscribed for 100,000 units in the placement. Following the completion of the private placement, Mr. Tourillon will beneficially own or exercise control or direction over, directly or indirectly, 9,454,850 shares, representing 2.58 per cent of the issued and outstanding Common Shares of the Company.



The participation of Mr. Tourillon in the private placement constitutes a related party transaction within the meaning of Multilateral Instrument 61-101 -- Protection of Minority Security Holders in Special Transactions, and TSX Venture Exchange Policy 5.9 -- Protection of Minority Security Holders in Special Transactions. In connection with this related party transaction, the company is relying on the formal valuation and minority shareholder approval exemptions of subsections 5.5(a) and 5.7(1)(a) of MI 61-101, respectively, as the fair market value of the portion of the private placement subscribed by Mr. Tourillon does not exceed 25 per cent of the company's market capitalization. The Board of directors of the Company has approved the Private Placement, including the participation of Mr. Tourillon therein.

Mr. Patrick Levasseur, a Director of HPQ, subscribed for 100,000 units in the placement. Following the completion of the private placement, Mr. Levasseur will beneficially own or exercise control or direction over, directly or indirectly, 4,540,875 shares, representing 1.24 per cent of the issued and outstanding common shares of the company.

The participation of Mr. Levasseur in the private placement constitutes a related party transaction within the meaning of Multilateral Instrument 61-101 -- Protection of Minority Security Holders in Special Transactions, and TSX Venture Exchange Policy 5.9 -- Protection of Minority Security Holders in Special Transactions. In connection with this related party transaction, the company is relying on the formal valuation and minority shareholder approval exemptions of subsections 5.5(a) and 5.7(1)(a) of MI 61-101, respectively, as the fair market value of the portion of the private placement subscribed by Mr. Levasseur does not exceed 25 per cent of the company's market capitalization. The Board of directors of the Company has approved the Private Placement, including the participation of Mr. Levasseur therein.

Mrs. Noëlle Drapeau, HPQ Corporate Secretary and a Director, personally and through its company 6710018 Canada Inc., subscribed for 100,000 units in the placement. Following the completion of the private placement, Mrs. Drapeau will beneficially own or exercise control or direction over, directly or indirectly, 1,133,000 shares, representing 0.31 per cent of the issued and outstanding common shares of the company.

The participation of Mrs. Drapeau in the private placement constitutes a related party transaction within the meaning of Multilateral Instrument 61-101 -- Protection of Minority Security Holders in Special Transactions, and TSX Venture Exchange Policy 5.9 -- Protection of Minority Security Holders in Special Transactions. In connection with this related party transaction, the company is relying on the formal valuation and minority shareholder approval exemptions of subsections 5.5(a) and 5.7(1)(a) of MI 61-101, respectively, as the fair market value of the portion of the private placement subscribed by Mrs. Drapeau does not exceed 25 per cent of the company's market capitalization. The Board of directors of the Company has approved the Private Placement, including the participation of Mrs. Drapeau therein.

In connection with the Offering, Red Cloud Securities Inc. of Toronto, Ontario, received a cash commission equal to \$3,300 and the Company issued to them 12,000 broker warrants. Each Broker Warrant will entitle the Broker to acquire one common share of the company at a price of \$0.30 per share for a period of 24 months following the Closing Date.

This news release does not constitute an offer to sell or a solicitation of an offer to buy any of the securities in the United States. The securities have not been and will not be registered under the United States Securities Act of 1933, as amended (the "**U.S. Securities Act**") or any state securities laws and may not be offered or sold within the United States or to U.S. Persons unless registered under the U.S. Securities Act and applicable state securities laws or an exemption from such registration is available.



## OTHER NEWS:

After a careful review of the Nano Silicon material market environment, the technology advancement and associated future development costs needed to get the PUREVAP™ Nano Silicon Reactor (NSiR) to a potential commercial stage, HPQ has advised its technology provider that it no longer intends to pursue the development of this technology. Instead, the company would focus its resources on other market-ready and more promising initiatives, such as its Fumed Silica Reactor project and silicon-based anode material initiative.

## REFERENCE SOURCES

- [1] Information from supplier quotes received by Novacium SAS
- [2] The Royal Society of Chemistry 2020 Sustainable Energy Fuels, 2020, 4, 5387–5416
- [3] QY Research, SNE Research, Shinhan Securities / NBM June 2023 Deck page 11
- [4] Information from supplier quotes received from GH Technologies (adjusted to include freight and duties)

## About HPQ Silicon

[HPQ Silicon Inc. \(TSX-V: HPQ\)](#) is a Quebec-based TSX Venture Exchange Tier 1 Industrial Issuer.

HPQ is developing, with the support of world-class technology partners [PyroGenesis Canada Inc.](#) and [NOVACIUM SAS](#), new green processes crucial to make the critical materials needed to reach net zero emissions.

HPQ activities are centred around the following four (4) pillars:

- 1) Becoming a green low-cost (Capex and Opex) manufacturer of Fumed Silica using the **FUMED SILICA REACTOR**, a proprietary technology owned by HPQ being developed for HPQ by PyroGenesis.
- 2) Becoming a zero CO<sub>2</sub> low-cost (Capex and Opex) producer of High Purity Silicon (2N+ to 4N) using our **PUREVAP™ “Quartz Reduction Reactors” (QRR)**, a proprietary technology owned by HPQ being developed for HPQ by PyroGenesis.
- 3) Becoming a producer of silicon-based anode materials for battery applications with the assistance of NOVACIUM SAS.
- 4) HPQ SILICON affiliate NOVACIUM SAS is developing a low carbon, chemical base on demand and high-pressure autonomous hydrogen production system.

For more information, please visit [HPQ Silicon web site](#).

## Disclaimers:

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 Company'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 Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's ongoing filings with the security's regulatory authorities, which filings can be found at [www.sedar.com](http://www.sedar.com). Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company 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 TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

This News Release is available on the company's [CEO Verified Discussion Forum](#), a moderated social media platform that enables civilized discussion and Q&A between Management and Shareholders.

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**Source:** HPQ Silicon Inc.

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