

NOVACIUM AWARDED € 90,000 GRANT TOWARDS WORK ON ITS ENGINEERED SiO_x ANODE BATTERY MATERIAL

Montreal, Canada, December 20th, 2023 — [HPQ Silicon Inc.](#) ("HPQ" or the "Company") ([TSX-V: HPQ](#)) ([OTCQB: HPQFF](#)) ([FRA: O08](#)), a technology company specializing in green engineering of silica and silicon-based materials, is pleased to inform shareholders that its France-based affiliate company NOVACIUM SAS ("Novacium") has been awarded a **French Tech Emergence Grant** of **€ 90,000 (C\$ 131,000)**.

The grant, administrated by the French Bank of Public Investments (BPI), is part of the French Government's strategy to promote projects considered "deep tech" for startups like Novacium. Novacium's project proposal to BPI concentrated on enhancing the entire value chain of highly engineered SiO_x-based anode materials for batteries.

"Novacium's recognition by BPI as an innovative project with significant industrial impact underscores the value of our work," said Mr. Jed Kraiem PhD, COO of Novacium. "With the upcoming results from our ongoing engineered SiO_x battery tests, we plan to seek more BPI deep tech financing, potentially up to €2 million, to advance our project to a pre-commercial stage."

BPI approved the grant following a rigorous selection process which involves having its sector experts validate the Novacium's deep-tech characteristics and the project's innovativeness combined with its industrial impact in France and worldwide.

"We are thrilled with Novacium's recent achievement and the BPI grant," said Mr. Bernard Tourillon, President and CEO of HPQ Silicon Inc. and NOVACIUM SAS. "It further confirms that the need for engineered SiO_x-based anode materials is a global necessity and highlights the Novacium/HPQ collaborative efforts in advancing cutting-edge silicon-based battery technologies."

ENGINEERED SiO_x BASED ANODE MATERIALS MARKET IS EXPANDING

A major trend in the lithium battery industry is the introduction of small amounts (between 5% and 10%) of silicon oxide (SiO_x) based additives into graphite composite electrodes. This is due to the fact that pure graphite anodes have essentially achieved their maximum performance in terms of energy density [1].

Silicon is the most promising candidate that can drastically improve the anode performance (more than 10 times), but its industrial application is very limited due to unresolved issues related to volumetric expansion. The use of engineered SiO_x materials, instead of pure silicon, enables overcoming this problem and increases battery capacity without significant degradation of the battery's lifetime.

This new reality is driving a surge in demand for advanced silicon-containing anode materials. As of 2023, this market is valued between US\$1.1 billion [2] and US\$2.7 billion [3]. Its growth prospects indicate a potential demand of 300,000 tons by 2030, estimated at US\$15 billion [4], according to one source, and US\$ 131.6 billion in 2033 according to another source [5].

It's important to highlight that silicon-based materials for Li-ion batteries currently make up a relatively small portion, accounting for less than 10%, of the global demand for graphite, which is primarily used in the manufacture of anode materials for Li-ion batteries. This graphite market is estimated to be worth US\$25 billion in 2023 [6].

"Today's news, which can be considered a big milestone, validates our strategic partnership with Novacium and strengthens our collective position in the global market for reliable, sustainable and innovatively engineered SiO_x battery materials," added Mr. Tourillon.

REFERENCE SOURCES

[1] The Royal Society of Chemistry 2020 Sustainable Energy Fuels, 2020, 4, 5387–5416

- [2] QY Research, SNE Research, Shinhan Securities / NBM June 2023 Deck page 11
- [3] The [global silicon anode battery market](#) is likely to be valued at US\$ 2.7 billion in 2023. From [Future Market Insights Global and Consulting Pvt. Ltd.](#)
- [4] QY Research, SNE Research, Shinhan Securities / NBM June 2023 Deck page 11
- [5] According to Future Market Insights, the [global silicon anode battery market](#) is Estimated to Reach US\$ 131.6 Billion by 2033.
- [6] Based on the analysis by Fact.MR, the global graphite market is valued to be US\$ 25.9 billion in 2023 and it is expected to grow at a CAGR of 8,5% to reach US\$ 58,6 billion by the end of 2023.
[Link to source](#)

About NOVACIUM SAS

Novacium is green technology startup based in Lyon, France started in Q3 2022. It is the result of a partnership between three of France's leading research engineers, Mr. Jed KRAIEM PhD, Novacium's Chief Operating Officer ("COO"), Mr. Oleksiy NICHIPORUK PhD, Novacium's Chief Technical Officer ("CTO"), and Mr. Julien DEGOULANGE PhD, Novacium's Chief Innovation Officer ("CIO"), who wanted to start a new Research and Development company to develop their own technology in high added value fields connected to renewable energy, and HPQ Silicon Inc, a Canadian company, looking to expand the depth and reach of technical team in order to develop its silicon and new renewable energy projects.

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 CO₂ 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](#).

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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. 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.

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