



HPQ Silicon Inc.

MANAGEMENT DISCUSSION AND ANALYSIS

For the period ended March 31, 2024

INTRODUCTION

This management discussion and analysis (“MD&A”), prepared as at May 28, 2024, contains information as at March 31, 2024, and should be read in conjunction with the unaudited Consolidated Financial Statements for the periods ended March 31, 2024, of HPQ Silicon Inc (formerly HPQ Silicon Resources Inc.) (“HPQ-Silicon”, the “Corporation” or “HPQ”). The information described in this report includes the activities of the parent company as well as its subsidiaries (see Note 4.2). The consolidated Financial Statements for the quarter were prepared by the management and have not been reviewed by the auditor. All amounts are in Canadian dollars.

The Notes referred to in this MD&A refer back to the Notes in the Consolidated Financial Statements. The Consolidated Unaudited Financial Statements are presented in compliance with the IAS 34 standards “Quarterly Financial Information” which calls for critical accounting estimates. They also demand of Management the exercise of its judgement in the application of the accounting methods used by HPQ Silicon. Note 5 of the Financial Statements outlines the particularly complex areas where such judgement is required as well as the hypotheses and estimates where such hypotheses and estimates have a major effect on the Consolidated Financial Statements. The consolidated Financial Statements were not adjusted in regard to the accounting value of Assets and Liabilities, Revenues and Expenses and to the classification used in the preparation of the Consolidated Cash Flow Statement under the hypothesis of the Corporation’s ability to continue as a going concern. These adjustments could be significant.

HPQ Silicon Inc. was incorporated on December 20, 1996, under the Canada Business Corporations Act. The Corporation’s shares are part of the Emerging Corporation category and are publicly traded on the TSX-Venture Exchange (“TSX-V”) under the symbol:” HPQ”. It is a reporting issuer under the securities laws of the provinces of Quebec, Alberta, and British Columbia. Since March 16, 2021, the Company's shares have been traded on the OTCQX Best Market under the symbol “HPQFF” and from July 7, 2023 , the Company's shares are trading on the OTCQB (“The Venture Market”) still under the symbol “HPQFF” On July 4, 2022, the Company obtained the certificate of modification of its corporate name for HPQ Silicon Inc. as well as its classification of its activity for Industrial, Technological or Life Sciences group 1 on the TSX Venture Exchange as of August 2022. HPQ Silicon’s Head Office is located at 3000, Omer-Lavallée Street, Suite 306, Montréal, Québec, Canada, H2Y 1R8.

The Corporation regularly presents supplementary information on its activities which are filed on SEDAR (www.sedarplus.ca).

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements that are based on the Company's expectations, estimates and projections regarding its business, the development of technologies related to the transformation of quartz into silicon materials and its derivatives in which it operates as of the date of the MD&A. These statements are reasonable but involve a number of risks and uncertainties, which are identified in the regular filings done by the Corporation with the Canadian Regulatory Authorities, and there can be no assurance that they will prove to be accurate and the final results as well as future events could vary in a material manner and contradict the results expected under these Statements.

The reader is cautioned not to place undue reliance on forward-looking statements as, actual outcome and results may differ materially from those expressed in or implied by these forward-looking statements.

The Forward-Looking Statements are influenced by a variety of risks, uncertainties and other factors which could significantly alter the results and actual events. When used in this document the words such as

“could”, “plan”, “estimate”, “intention”, “potential”, “should” and similar expressions are Forward Looking Statements.

Even though the Corporation believes that the expectations expressed in these Forward-Looking Statements are reasonable, these statements are subject to risks and uncertainties and there is no assurance given by the Corporation that the expected results will correspond to the Forward-Looking Statements.

Many risks exist which could render these Forward-Looking Statements erroneous such as the inability to obtain patents or other development risks.

The Corporation’s ability to continue its operations is subject to securing additional financings needed to continue the development of its technologies, to start commercial production, and the continued support of its suppliers and creditors. Even though the Corporation was able to secure such financings in the past there is no guarantee it will be able to do so in the future.

The Corporation commits to update its Forward-Looking Statements and to advise its shareholders if circumstances, estimates or opinions issued by Management changes.

DESCRIPTION OF THE BUSINESS

The Company is a technology company specializing in green engineering processes for silica and silicon material production. HPQ projects are focused on proposing innovative silicon (Si)-based solutions all the while developing a unique portfolio of Silica (SiO₂) and high value-added silicon (Si) products sought after by end users (Manufacturers of Li-Ion battery, Electric Vehicle (EV), anodes for Li-Ion batteries, to name just a few).

The company is also working on the development of a stand-alone system for manufacturing hydrogen under pressure by hydrolysis of silicon-containing materials.

The Corporation’s activities are focussed on the four (4) following niches:

1. FUMED SILICA (SiO₂) NICHE

- a) Working with PyroGenesis, the company is focused on the development and commercialization of a new plasma-based process that enables the direct transformation of quartz into fumed silica.

2. ADVANCED SILICON-BASED ANODE MATERIALS NICHE

- a) Working with Novacium SAS, the company is focused on developing a manufacturing capability to make advance silicon-based anode materials specifically designed for Li-ion battery anodes.

3. HYDROGEN NICHE

- a) In close collaboration with Novacium SAS, the company is working on the development of an autonomous system for the manufacture of hydrogen under pressure by hydrolysis of silicon-containing materials.

4. SILICON (Si) NICHE

- a) Developing the *PUREVAP™ “Quartz Reduction Reactor” (QRR)*, an innovative process to directly transform quartz (SiO₂) into high-purity silicon (Si) (from 3N to 4N) in a single step.

- b) In collaboration with PyroGenesis, the company is focusing on hr development and commercialization of the PUREVAP™ Quartz Reduction Reactor (RRQ), an innovative process that aims at directly transforming quartz (SiO₂) into a high-purity (3N to 4N) , low-carbon silicon (Si). Materials with the following potential market outlet:
- i. Metallurgical grade silicon metal (98.5% Si) used as an alloy in aluminum applications and chemical grade silicon metal (99.5% Si) applications as raw material for silicone manufacturing and for polysilicon manufacturing;
 - ii. The high purity Silicon Materials (3N to 4N), as feedstock for batteries applications and for advanced material such as silicon nitride.

OVERALL PERFORMANCE DURING THE FIRST QUARTER OF 2024

- At the end of March 2024, the 100-cycle test of industrial batteries, made with Novacium Silicon-based materials, continues to show a performance improvement of more than 14% but with a similar level of degradation to graphite reference batteries.
- In mid-March 2024, the 50-cycle test of industrial batteries, made with Novacium Silicon-based materials, continues to show a performance improvement of more than 14% with no noticeable degradation over 50 cycles.
- In early March 2024, confirmation that all important equipment required for the final assembly of the RSP has been received.
- At the end of February 2024, the 25-cycle test of industrial batteries, made with Novacium's Silicon-based materials, continues to show a performance improvement of more than 14% without noticeable degradation during the first 25 cycles.
- At the end of January 2024, an agreement was signed to study the possibility of integrating Novacium's hydrogen manufacturing technology into vehicles in the French defence industry.
- In early January 2024, the company received an internal technical and economic study on the potential of the FSR project on a commercial scale.

FINANCING AND OTHER

- On January 26, 2024, the Company settled a trade account payable of \$38,700 by the issuance of 180,000 units. Each unit consists of one common share and one warrant. Each warrant entitles the holder thereof to acquire one common share of the Company at a price of \$0.32 per share for 24 months following the closing date of the transaction.
- On January 14, 2024, the Company settled a trade account payable of \$49,680 by the issuance of 216,000 units. Each unit consists of one common share and one warrant. Each warrant entitles the holder thereof to acquire one common share of the Company at a price of \$0.27 per share for 24 months following the closing date of the transaction.
- As at March 31, 2024, the Company had \$513,937 in cash, marketable securities of \$438,518, goods and services tax receivable of \$102,728, investment tax credits receivable of \$549,446 and \$161,150 in prepaid expenses and others.

HPQ TECHNOLOGIES

FUMED SILICA (SiO₂) NICHE

Fumed Silica is a versatile, microscopic white powder with a large surface area and low bulk density. Because of fumed silica's importance in industries like personal care, pharmaceuticals, agriculture (both feed and food), construction (sealants and adhesives), batteries, and automotives, it is material in high demand.

Conventional fumed silica manufacturing processes rely on the use of silicon metal (Si) as a raw material, involving complex steps, high energy consumption, hazardous materials, and the production of hydrogen chloride (HCl) as a by-product.

These processes have a carbon footprint that varies between 8 tonnes (t) of CO₂ e per t of fumed silica and 17 t of CO₂ e per t of fumed silica, with more than 60% of these emissions coming from the use of silicon as a feedstock.

FUMED SILICA REACTOR

HPQ Silica Polvere Inc (HPQ POLVERE) (a 100% owned HPQ subsidiary) Fumed Silica Reactor ("FSR") is much simpler process than traditional fumed silica production methods.

The FSR allows 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.

Having a direct transformation of quartz into fumed silica, thus eliminating the need for the conventional carbothermic process to convert quartz into silicon.

This innovation has the potential to reduce direct CO₂ emissions associated with the production of fumed silica by between 84% and 88%, which is equivalent to reductions of between 7 t CO₂ and 14 t CO₂ per t of fumed silica produced.

The plasma-based process relies on exposing quartz feedstock to an electric arc in a manner like that of lightning. The extremely high temperature in the Fumed Silica Reactor vaporizes the quartz, turning it into tiny particles. Then, it can be re-solidified into Fumed Silica powders, perfect for a variety of industrial and commercial applications.

Furthermore, the process requires between 10,000 kWh to 15,000 kWh to produce a t of Fumed Silica, this represents a reduction between 87% et 90% in the energy footprint associated with manufacturing Fumed Silica.

Finally, since the new process uses Quartz as feedstock, its capital requirements will only be a small fraction of what is required to build a traditional Fumed Silica plant.

Engineering and construction of the Fumed Silica Pilot Plant, budgeted at \$2 million, is finance by the following parties:

- The Federal Government of Canada (SDTC) will pay ≈ 33% of the cost,
- The Quebec Government (TED) will pay ≈ 30% of the cost,
- HPQ Silica Polvere Inc (a 100% owned HPQ subsidiary) will pay ≈ 29% of the cost, and
- PyroGenesis Canada Inc will cover the remaining ≈ 8% and act as operator.

FUMED SILICA PROGRESS MILESTONES

The Fumed Silica Reactor Technology R&D development is advancing although at a slower pace than previously divulge in 2021.

As of March 31, 2024, HPQ POLVERE paid \$336,184 (29%) of the project cost to date regarding the ongoing engineering and design work.

During Q1 2023, the development of the PyroGenesis-led project for HPQ POLVERE reached several important milestones:

1. The completion of the engineering tasks related to the design and fabrication of the Pilot Plant.
2. The conducted a series of small-scale R&D tests to validate and improved concepts for the pilot plant and produce small sample sizes of fumed silica for evaluation. These tests were important as they provide useful information for:
 - a. Identify production parameters that optimize the process and quality of small-scale fumed silica and,
 - b. Evaluate the properties of lab-scale fumed silica powders and compare them with commercial-grade materials.
 - c. The lab test tests showed promising results by successfully demonstrating a capacity to produce Hydrophilic Fumed Silica comparable to commercial-grade materials.

In Q2 2023, several lab-scale tests using raw quartz (SiO₂) as feedstock to produce Fumed Silica in a one-step process were successfully completed. This achievement utilized our proprietary FSR technology and marked significant progress by reaching the following key milestones:

1. Generated Fumed Silica material exhibiting structural characteristics similar to commercial grade fumed silica, falling between grade Aerosil 150 and Aerosil 200 when compared under Transmission Electron Microscopy (TEM).
2. Produced nearly one (1) kilogram of Fumed Silica powder, enabling HPQ Polvere to start sending samples to interested third parties for testing.

During the quarter, HPQ Polvere, and technology provider PyroGenesis Canada Inc. successfully signed two (2) non-disclosure agreements ("NDAs") with Fumed Silica Manufacturer, whose identities were not disclosed.

The main objective of the NDA'S is to enable the parties to assess the characteristics of the Fumed Silica produced by the FSR versus the commercial fumed silica manufactured by the Parties having signed the NDAs.

In Q3 2023, samples of the fumed silica samples, produced using the lab-scale FSR model, were shipped to third-party under NDAs for third parties' evaluations.

In Q4 2023, HPQ Polvere and technology provider PyroGenesis successfully signed a third Non-Disclosure Agreement ("NDA"). This agreement involves another participant in the fumed silica industry, who wants to evaluate materials produced by HPQ Polvere's proprietary FSR technology. The agreement aims to facilitate the sharing of samples for evaluation purposes.

During the same quarter, the Company received an Independent analysis done at McGill University confirming that HPQ Polvere's Fumed Silica Reactor produces commercial-quality hydrophilic material with a high surface area and excellent thickening efficiency.

The salient point of the analysis is that it confirms that the HPQ-produced Fumed Silica material, made under less-than-optimal operating parameters, is of commercial quality with the following key characteristics [1]:

- It is Hydrophilic,
- It possesses High Surface Area (135-185 m²/g), and
- It has Excellent Thickening Efficiency.

Making commercial-grade Fumed Silica directly from quartz is already a substantial disruptive advantage, the lab-scale testing of HPQ Polvere's proprietary FSR process provided PyroGenesis with the necessary operational data to estimate, in more detail, the following significant advantages of the FSR over conventional processes:

- 1) Reduction in energy consumption by 87.5% to 90% versus conventional processes. As energy represents one of the largest variable costs in traditional Fumed Silica production processes, HPQ Polvere, with its proprietary Fumed Silica Reactor, gains a substantial economic advantage over traditional manufacturers.
- 2) Furthermore, modelization indicate that by using our process, CO₂ eq. emissions can be reduced by 84% to 88%, versus traditional processes.
- 3) Finally, traditional processes to make Fumed silica produce an average of 2.4 Kg of Hydrogen chloride (HCl) per Kg of Fumed silica produced [4]. HCl, being a hazardous by-product, the Capex and Opex costs associated with its management can be substantial. As the FSR process does not produce any HCl, this represents an additional substantial economic advantage for HPQ Polvere.

During Q1 2024, the Company completed an internal technical and economic study (the "Study") related to its proprietary Fumed Silica Reactor technology. The study was prompted by an inquiry from a participant in the Fumed Silica industry under NDA.

The study assessed the technical and economic viability of quickly scaling up the HPQ Silica Polvere's Fumed Silica Reactor (FSR) from the current 50 tonnes per year (TPY) pilot plant configuration to a 1,000 TPY commercial configuration, following the successful completion of the pilot plant testing phase.

The significance of this preliminary assessment lies in its confirmation of the technical feasibility of rapid scaling up to a 1,000 TPY FRS while preserving the best-in-class environmental advantages inherent in the FSR technology [2]. Moreover, the study unveiled its robust economic potential, emphasizing potential EBITDA margins three times higher than the industry average of 20% and a capital investment 93% less than that required for building a conventional Fumed Silica plant.

During the same quarter, all major equipment's needed for the 50 tonnes per year (TPY) FSR pilot plant have been received.

FUMED SILICA FUTURE PROGRESS MILESTONES

The goal of the program is building and operating a 50 Tonnes (t) per year (TPY) commercial Fumed Silica Reactor pilot plant.

The 50-TPY FSR pilot plant has entered the assembly phase, marking the final milestone before its scheduled commissioning at the end of Q2 2024.

Under the ongoing contract with PyroGenesis, HPQ Polvere still has one payment of \$284,021 to do in 2024 for the pilot plant project.

Beginning Q3 2024, the pilot plant will start operations. Initially, the system will operate under a batch protocol with the goal of replicating the production of fumed silica material with specific surface areas between 150 – 200 m²/g, similar results to those obtained at lab-scale.

Subsequently, the system will progress to semi-continuous operations with the goal of producing 5m³ (200kg) of commercial-grade fumed silica, equivalent to 199 times the entire lab-scale production. This quantity will provide HPQ Polvere with enough material to send samples for qualification to multiple potential clients who have shown interest in our products, with the aim of securing priority offtake agreements for our low-carbon fumed silica material.

During a follow up phase, the pilot plant operations will be optimized in order to target the production of food/pharma grade fumed silica material with specific surface areas exceeding 300 m²/g. This high value material is used in 'beauty and personal care' products—a market segment expected to drive increase demand for fumed silica and is projected to constitute 30% of the entire Fumed Silica market by 2032.

Furthermore, if additional material were to be needed to fulfill clients demand and or qualify HPQ Polvere low-carbon fumed silica with additional potential clients, the system could switch to its full capacity mode, running multiple production cycles throughout the day. Assuming 20 hours of operations per day, the system could produce around 161 kg/day, equivalent to about 50,000 kg per year (50 TPY).

Although the successful validation of upgrading the technology to achieve commercial-grade industrial production of Fumed Silica is not guaranteed, ongoing discussions point to opportunities for commercial partnerships during validation.

These partnerships could take place in a variety of ways, including offtake agreements and/or technology adoption.

Based on these discussions, and to meet the anticipated demand for low carbon Fumed Silica, HPQ Polvere's commercialization strategy is based on the construction of an initial FSR with a capacity of 1,000 TPY. Anticipate demand may require that the company consider building additional RSPs, each with a capacity of 1,000 TPY.

The scale up choices emanate from an internal HPQ study that evaluated the technical and economic viability of a rapid scale-up of HPQ Silica Polvere's Fumed Silica Reactor (FSR). This scale-up would move from the current configuration of the pilot plant, producing 50 tonnes per annum (TPA), to a commercial configuration of 1,000 TPA, following the successful completion of the pilot plant testing phase.

INTELLECTUAL PROTECTION FOR THE FUMED SILICA REATOR TECHNOLOGIES

For the period ending December 31, 2023, the company's *Fumed Silica Reactor* patent portfolio consisted of one patent acquired from PyroGenesis Canada Inc. by HPQ Silica Polvere Inc (HPQ POLVERE) (a 100% HPQ owned subsidiary) in 2021.

The patent covers a "*Plasma arc process and apparatus for the production of Fumed Silica*". This patent is still pending in different jurisdictions around the world.

Under the terms of the 2021 patent purchase agreement, HPQ POLVERE owns the original patent, any proprietary know-how from the development of the technology, and any new patent applications that may arise from this work.

HPQ POLVERE owns the exclusive worldwide rights to this technology and any improvements that may lead to the filing of new related patents in fields related to the production of fumed silica directly from Quartz.

However, the company has granted PyroGenesis an exclusive, irrevocable, royalty-free worldwide license to use the process for purposes other than the production of fumed silica directly from Quartz. If PyroGenesis is approached and or solicited by third parties for research and development projects or for commercial use outside HPQ' POLVERE Field of Activity, HPQ POLVERE shall have a right of first refusal, provided, however, that HPQ POLVERE exercises its right of first refusal within thirty (30) days of receipt by PyroGenesis of a valid offer made in good faith by any such third party.

ADVANCED SILICON-BASED ANODE MATERIALS NICHE

Over the last few years HPQ has signed at least seven (7) NDAs with EV manufacturers, battery makers and other high-value materials companies.

During 2023, the company studied the market and technologies currently being commercially deployed with respect to the addition of silicon materials in batteries. Two important trends stand out:

1. Even micronize, 3N and 4N purity silicon powders cannot be used without significant modifications in the batteries,
2. The major trend in the lithium battery industry is adding a small amount (5%) of silicon oxide (SiO_x) into graphite anode composite.

This basic SiO_x material, primarily used in the fabrication of optical materials, sells for about US\$15 per kg [4] and delivers less than optimal results.

While Silicon remains the most promising candidate that can drastically improve the anode performance (more than 10 times), its industrial application is still very limited due to unresolved issues related to volumetric expansion or due to the usage of very complex and highly expensive solutions.

The manufacture of an engineered silicon-based anode material will enable the battery industry to overcome these problems and increase battery capacity without significant degradation of the battery's lifetime.

Even though the demand for advanced silicon-based anode materials already exists, the supply of these materials is mainly from China, since there are few manufacturers in North America or Europe making this type of materials, and moreover those that do exist offer complex, expensive solutions and not adapted to the reality of the market, which represents an opportunity for HPQ.

That's why we focus our efforts on manufacturing advanced silicon-based anode materials for Li-Ion battery applications, in collaboration with Novacium, our French associated company. Novacium has extensive know-how in silicon, its use and how it has adapted and improved the technologies available in the market for the manufacture of advanced silicon-based anode materials for batteries.

ADVANCED SILICON-BASED ANODE MATERIALS PROGRESS MILESTONES

Since its creation in 2022, Novacium is actively working to identify the characteristics of Si or SiO_x materials available in the market, with the aim of proposing an approach that would allow HPQ/Novacium to set up a first production line capable of manufacturing silicon-based anode materials for batteries.

Novacium has already undertaken the identification of several techniques and equipment suppliers that have already demonstrated their effectiveness in the market for this task.

As part of this work on the battery initiative, HPQ has also entrusted Novacium with the responsibility of leading the development of 4N purity micrometric powders for High-Performance Material Company ("HPMC)". Following this, the first batches of 4N+ purity silicon micrometric powder samples were delivered to the HPMM under NDA from materials prepared by Novacium.

November 2023, HPQ and its affiliate Company have signed a Memorandum of Understanding (“MOU”) with U.S.-based silicon-dominant anode developer and manufacturer Ecellix Inc.

The signed MOU provides a framework and pathway for HPQ and Novacium to become:

- I. Ecellix Silicon Technology Partner producing the Silicon material needed for the Ecellix battery manufacturing process, and
- II. The dedicated Silicon material supplier deploying scalable manufacturing facilities near Ecellix planned Gigafactory locations.

Over the coming months, HPQ and Novacium will be focusing on:

- I. Manufacturing material to ascertain its alignment with Ecellix requirements,
- II. Testing Ecellix material's properties for potential enhancements using Novacium patented “carbon layer surface treatment.”

In order to validate the process, at the end of December 2023 Novacium, working with an external laboratory, produced 18650 industrial batteries using its advanced silicon for batteries.

Two batches were prepared, the first batch used 100% graphite anode materials, serving as a reference battery for performance comparison. These references were then compared to the second batch, which consisted of a mixture of 90% graphite and 10% Novacium's first-generation advanced silicon-based anode materials.

In the first quarter of 2024, the company began to receive very promising initial results on the performance of Novacium's first-generation batteries made of a blend of 90% graphite and 10% first-generation advanced silicon-based anode materials.

The highlight is that at 125 cycles, testing on the 18650 batteries continues to indicate a 14% improvement in performance and a low level of degradation compared to graphite reference batteries.

For the period ended March 31, 2024, the Company incurred \$250,000 in expenses related to the advancement of manufacturing advanced silicon-based anode materials and high value-added silicon materials. However, it is important to note that these expenses will be eligible for the research tax credit in France.

ADVANCED SILICON-BASED ANODE MATERIALS FUTURE PROGRESS MILESTONES

One of the goals of the current phase of the battery initiative is to position itself to provide an advanced silicon-based anode material that meets the needs of industry buyers.

Based on the results obtained, a new generations of advanced silicon-based anode materials have been prepared and new 18650 industrial batteries have been made.

Once all the testing results have been received and analyzed, HPQ/Novacium will investigate the best approach for the commissioning of a first production line capable of manufacturing advanced silicon-based anode materials. In this perspective, Novacium, in collaboration with Dr. Pascal RIVAT Ph.D., will have to identify the technological elements necessary to achieve this objective. They will also need to evaluate capital investments (CAPEX) as well as operational expenses (OPEX) for each process, with the aim of selecting the most appropriate technology for HPQ's production line.

HPQ and Novacium are collaborating with several high-level research centers to study how to improve the performance of silicon-based batteries. Once all the tests done with non-optimized materials have reach their technical limits, Novacium will conduct tests to determine whether its patented surface treatment processes can improve the performance of materials used in batteries.

The cost of this work for the Second quarter of fiscal year 2024 is estimated at \$175,000. However, it is important to note that these expenses will be eligible for the research tax credit in France.

INTELLECTUAL PROTECTION FOR SILICON-BASED ANODE MATERIALS

As of March 31, 2024, Novacium had not yet filled patent under the driven battery initiative.

But Novacium has acquired a family of patents related to the surface treatment of carbonaceous materials from Dr. Alexander Zaderko.

- Patents (US 10000382 et UA 110301) associated with the family WO 2016/072959, (METHOD FOR CARBON MATERIALS SURFACE MODIFICATION BY THE FLUOROCARBONS AND DERIVATIVES), held by Alexander ZADERKO, Vasyl PRUSOV et Vitaliy DIYUK, are in the process of being registered in the name of Novacium SAS.
- Patents applications (DE 112017007450 et US 2020/198971) associated with the family WO 2018/194533, (METHOD FOR CHEMICAL MODIFICATION OF FLUORINATED CARBONS WITH SULFUR-CONTAINING SUBSTANCE) held by Alexander ZADERKO, Vasyl PRUSOV et Vitaliy DIYUK, are in the process of being registered in the name of Novacium SAS.
- Patents applications (CA 3 123 354, EP 198 365 16.5, JP 2021-534281, KR 10-2021-7021938, US 17/413,591, UA 123512)) associated with the family WO 2020/121119, (THE PROCESS FOR OBTAINING OF FLUORALKYLATED CARBON QUANTUM DOTS), held by Alexander ZADERKO, are in the process of being registered in the name of Novacium SAS.

BATTERIES INITIATIVE – PUREVAP™ NANO SILICON REACTOR (NSiR)

The NSiR is a new proprietary process that can use the high-purity silicon (3N to 4N) produced by the PUREVAP™ QRR and transform it into nano silicon spherical powders and wires. By internally sourcing silicon feedstock materials, HPQ's NSiR should be able to achieve low manufacturing cost while maintaining the flexibility to rapidly adapt the feed material to meet changing End-market requirements.

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.

As a result of this decision, during fiscal 2023, the Company wrote off all intangible assets related to the PUREVAP™ Nanosilicon Reactor (NSiR).

INTELLECTUAL PROTECTION FOR THE PUREVAP™ NSiR TECHNOLOGIES

As of the end of fiscal 2022, the company's PUREVAP™ NSiR patent portfolio consisted of one patent acquired from PyroGenesis Canada Inc. by HPQ Nano Silicon Powders Inc (HPQ NANO) (a 100% HPQ owned subsidiary) in 2020.

The patent covers the “Nano-silicon particles/wire production by arc furnace for rechargeable batteries”. This patent is still pending in different jurisdictions around the world.

Under the terms of the 2020 patent purchase agreement, the Company's decision to no longer pursue its activities related to the development of this technology, means that HPQ NANO returned ownership of the patent to PyroGenesis during Q1 2024.

HYDROGEN NICHE

Currently, HPQ is working with Novacium regarding the development of processes for making hydrogen via hydrolysis of silicon and other materials.

The new hydrogen production system uses a chemical process to liberate hydrogen from specific low-cost, low-carbon footprint, and non-hazardous alloys. Furthermore, the hydrogen produced by the chemical process directly reaches industry-standard pressure levels, typically ranging from 200 to 1,000 bars.

Unlike traditional electrolysis-based hydrogen production systems, Novacium's process operates without the need for electricity, extensive storage, and complex transportation infrastructure, offering a truly autonomous solution.

HYDROGEN NICHE PROGRESS MILESTONES

During Q1 2024, the Novacium team completed laboratory-level tests on the development of autonomous hydrogen manufacturing processes by hydrolysis of silicon and other materials.

For the period ended March 31, 2024, the Company incurred about \$50,000 in expenses related to the advancement of hydrogen niche. However, it is important to note that these expenses will be eligible for the research tax credit in France.

HYDROGEN NICHE FUTURE PROGRESS MILESTONES

The company is currently in discussions with several technology providers with the aim of finalising its design specifications of the system before the end of Q2 2024, with the aim of having the first prototypes completed by the end of 2024.

Novacium is currently engaged in discussions aiming to secure grant financing, from two potential clients, to cover 35% to 75% of the costs to deliver the first working prototype of the system by the end of 2024.

For cost of the ongoing work for Q2 2024 are estimated at \$150,000. However, it is important to note that these expenses will be eligible for the research tax credit in France.

NEW TECHNOLOGIES INTELLECTUAL PROTECTION

During the first semester of 2023, no new patents resulting from the collaboration with Novacium SAS have been filed.

In September 2023, NOVACIUM SAS ("Novacium") has filed a patent application for a low carbon footprint, chemical based, on-demand and high-pressure autonomous hydrogen production system.

The new hydrogen production system uses a chemical process to liberate hydrogen from specific low-cost, low-carbon footprint, and non-hazardous alloys. Furthermore, the hydrogen produced by the chemical process directly reaches industry-standard pressure levels, typically ranging from 200 to 1,000 bars.

SILICON (Si) NICHE

Silicon (Si), also known as silicon metal, is a semi-conductor material and the second most abundant element in earth's crust. Like all other energy metals (lithium, graphite, cobalt, nickel, etc.), it does not exist in its pure state and is expensive to extract.

Silicon is also one of today's key strategic materials needed for the decarbonization of the economy and the Renewable Energy Revolution ("RER").

The EU, the United States and Australia declared Silicon a critical raw material as a wide range of modern technologies depends on it to make various numbers of industrial and consumer products.

The Silicon market is ripe for the development of disruptive technologies, because:

- To extract it commercially from Quartz (SiO_2), of 1N to 2N purity an expensive & energy intensive carbothermic process, first invented in 1899, is still used,
 - Traditional silicon metal manufacturing results in the emissions of 5 tonnes (t) of CO_2 per tonne (t) of silicon produced. This makes Silicon Metal manufacturing the largest emitter of CO_2 among all metals and non-ferrous metals, based on a tCO_2/t product basis, as per the Intergovernmental Panel on Climate Change (IPCC), a United Nations body focused on climate change research.
- Depending on final application, (Solar, Electronics, Batteries) 2N purity silicon (chemical grade Silicon) (99.5% Si) must either be purified & or engineered.

THE PUREVAP™ QUARTZ REDUCTION REACTOR (QRR)

The PUREVAP™ “Quartz Reduction Reactor” (QRR) is by design a Closed Electric Arc Furnace (CEAF) with the ability to operate under controlled atmospheric conditions. This innovative furnace enables the semi-continuous feeding of Silica (SiO_2) and a carbon reductant, facilitating the production of 3N+ silicon in a single step. Notably, the QRR's design eliminates air infiltrations within the reactor, ensuring that the CO gas (“Co(g)”) generated during the carbothermic reaction remains unoxidized. Consequently, the QRR produces a gas composition enriched with CO(g), which can be readily captured for further utilization. There by enabling CO₂-free production of silicon.

Another advantage of the QRR is the fact that it uses 25% less feedstock to make the same amount of silicon as traditional production processes (4.5 Tonnes (t) to make 1 t of silicon versus 6 t to produce 1 t). This potential 25% reduction in raw material consumption could, according to management's assumptions, translate into production cost savings of up to 10%. In addition, this process makes it possible to produce silicon of higher purity (4N instead of 2N).

PUREVAP™ QRR PROGRESS MILESTONES

The PUREVAP™ (Gen3) Pilot Plant, a scale up version of the Gen 2 PUREVAP™ QRR by a factor of approximately 2,500 times, is being deployed to validate and replicate key findings previously identified during Gen 1 and 2 testing.

Started in June 2022, a vigorous testing program was completed in October 2023. Still, the PUREVAP™ QRR R&D programme is progressing.

This research and development phase takes place before the launch of the pre-commercial phases, which makes it possible to test the system in conditions that are as close as possible to a commercial operation. This phase also allows HPQ, its technology provider and subcontractor to validate and quantify the QRR’s disruptive advantages as previously identified during Gen 1 and 2 testing.

During fiscal year, 2023, the Gen3 QRR testing to date and the silicon purity results have validated 100% of the project's key milestones, especially:

- 1) Scaling up production by 2,500X from PUREVAP™ Gen2 QRR.
- 2) Reproducibility of the one step production of **Silicon that exceeds the highest purity threshold (2N)** of commercially available silicon material, and
- 3) Demonstrating the semi-continuous batch production capability of the reactor.

- 4) Completed a Silicon Pour
- 5) Reproducibility of the one-step production of **Battery Grade Silicon (3N+)**, the purity required for feedstock in the manufacturing of Silicon Base anode material, and
- 6) Reproducibility of the production of silicon using 25% **less feedstock** than conventional carbothermic processes that use a ratio of 6 tonnes (t) of raw materials to produce 1 t of metallurgical grade silicon (MG Si – 98.5% to 99,5%).

PUREVAP™ QRR FUTURE PROGRESS MILESTONES

Work done in 2023 having validated 100% of the project's critical milestones of the pilot plan project, combined with the fact that the Company activities will be primarily focused on our Fumed Silica, advanced silicon-based anode materials and hydrogen niches, the company's activities surrounding the PUREVAP™ project will instead be focused on:

1. Finalizing an agreement regarding for the development of technologies for capturing CO gas generated during the direct carbothermic production of silicon from quartz and its conversion into solid carbon that can be reinjected into the next production cycle.
2. Securing grant financing for proof-of-concept studies concerning HPQ Green Silicon capability.
3. Launch of proof-of-concept studies for HPQ Green Silicon initiative. Centered on the capture of CO gas generated during direct carbothermic production of silicon from quartz and either convert it to solid carbon that can be re-injected in the next production cycle or combining it with green hydrogen to produce green synthetic fuel.

The costs for achieving point 3 will be finalized once the agreement regarding for the development of technologies for capturing CO gas generated during the direct carbothermic production of silicon from quartz and its conversion into solid carbon that can be reinjected into the next production cycle is finalized.

Regarding point 2, the Corporation will be seeking partial financing for these costs through a grant from the appropriate government authorities. Unfortunately, the activities of one of the main funders for this type of project, Sustainable Development Technology Canada (SDTC), are frozen until further notice due to internal governance issues at SDTC.

INTELLECTUAL PROTECTION FOR THE PUREVAP™ QRR TECHNOLOGIES

For the period ending December 31, 2023, the company's PUREVAP™ QRR patent portfolio consisted of a patent acquired from PyroGenesis Canada Inc. in 2016, and a second patent emanating from ongoing improvement to the PUREVAP™ QRR processes, filed in 2019.

The first patent covers the *“silica to high purity production process”*. In March 2022 the United States Patent and Trademark Office issued U.S. Patent No. 11,267,714 for *“the silica to high purity production process”*. This patent is still pending in other jurisdictions that should be issuing their patent approval for this invention in due time.

The second is for a *“new and novel process for continuous operations of a plasma arc furnace under vacuum”*. This patent is still pending in different jurisdictions that should be issuing their patent approval for this invention in due time.

In January 2023, a third QRR patent application was filed in France. This new application is provisional and is entitled "Apparatus and method for producing silicon by carboreduction". Regardless of the fact that HPQ-Silicon is the owner of this patent, French law grants the inventors of this patent compensation in consideration of the work they have done in the realization of the patent, which encumbers the patent

and becomes a debt payable by the owner to the inventors. The Parties (HPQ and the inventors) then agreed, after negotiation, that this debt will be settled by the payment of a lump sum of €60,000, or €20,000 per inventor.

End of February 2023, the Parties agreed to settle this €60,000 debt through the issuance by HPQ Silicon of shares from its capital. 360,000 units representing a total consideration of \$114,632 were issued. Each Unit consists of one (1) common share of the Company and one (1) warrant to purchase one (1) additional common share of the Company at an exercise price of \$0.32, for a period of two (2) years after the closing date of the transaction.

In March 2023, a fourth QRR patent application for HPQ Silicon was filed in France. This new application is provisional and is entitled "Apparatus and method for producing silicon of 3n purity or higher by purification of silicon of 2n purity". As before, this patent application is subject to French law, and it follows that the inherent patent is encumbered by the debt corresponding to the compensation payable to the inventors. HPQ Silicon and the inventors have agreed that HPQ Silicon's lump sum payment of €60,000 to the inventors will fully settle this debt and result in a final discharge.

In early June 2023, the Parties agreed to settle this debt of €60,000, or €20,000 per inventor, through the issuance by HPQ Silicon of its share capital of 432,000 units representing a total consideration of \$121,600. Each Unit will consist of one (1) common share of the Company and one (1) warrant to purchase one (1) additional common share of the Company at an exercise price of \$0.27 for a period of two (2) years after the closing date of the transaction.

In September 2023, a fifth QRR patent application for HPQ Silicon was filed in France. This new application is provisional and is entitled "*Apparatus for the production of a silicon-based material under vacuum*". As before, this patent application is subject to French law, and it follows that the inherent patent is encumbered by the debt corresponding to the compensation payable to the inventors. HPQ Silicon and the inventors have agreed that a payment by HPQ Silicon to the inventors of €60,000 will settle this debt in full and result in a final discharge. In November 2023, the company paid this amount of \$86,450.

Under the terms of the 2016 patent purchase agreement, HPQ owns the original patent, a second patent from the R&D work done with Gen1 and Gen2 equipment, any proprietary know-how from the development of the technology, and any new patent applications that may arise from this work.

HPQ owns the exclusive worldwide rights to this technology and any improvements that may lead to the filing of new related patents in fields related to the production of silicon from quartz.

However, the company has granted PyroGenesis an exclusive, irrevocable, royalty-free worldwide license to use the process for purposes other than the production of silicon from quartz. If PyroGenesis is approached and or solicited by third parties for research and development projects or for commercial use outside HPQ's Field of Activity, HPQ shall have a right of first refusal, provided, however, that HPQ exercises its right of first refusal within thirty (30) days of receipt by PyroGenesis of a valid offer made in good faith by any such third party.

In the last quarter of 2023, management decided to optimize the jurisdictions covered by patent applications, and this decision leads us to devalue the carrying value of patents associated with certain specific jurisdictions and the book value of the related patents of \$644,721 with a corresponding depreciation of \$91,787 for a net charge of \$552,934.

As part of its IP portfolio strategy to protect the PUREVAP™ QRR technologies, HPQ acquired from PyroGenesis on November 10, 2022 (with an effective date of September 30, 2022), a new intellectual property regarding a "*Low Carbon Emission Process for the production of Silicon*". Under the terms of the agreement, the parties are currently finalizing the terms of a complementary agreement surrounding the

R&D phases associated with the development of equipment and processes necessary for the application of this IP.

Under the original terms of the agreement, HPQ initially had until June 30, 2023, to pay the purchase price of the intellectual property, which amounted to \$3,600,000. However, an addendum to the original agreement has been agreed to defer cash payment of the balance of \$3,430,000 until June 30, 2024.

RESEARCH AND DEVELOPMENT EXPENSE

The following table represents the research and development expenses for the quarter and period ending March 31, 2024, compared to the corresponding period of 2023.

	QUARTER/PERIOD		Project		
	2023	2024	PUREVAP QRR	FUMED SILICA	Other
Salary	215,478	226,357	-	-	226,357
Consultant	413,908	62,565	7,511	-	55,054
Patent and maintenance	-	102	-	-	102
Supply for testing	378,000	-	-	-	-
Material	19,530	7,404	-	-	7,404
Travel expenses	18,073	7,663	-	-	7,663
	1,044,989	304,091	7,511	-	296,580
Investment tax credits	-	-	-	-	-
Total the period:	1,044,989	304,091	7,511	-	296,580

RECENT CORPORATE DEVELOPMENT OVERALL PERFORMANCE

SELECTED FINANCIAL INFORMATION

The first quarter of 2024

The Net Loss decrease of \$279,427 \$ (16%) (\$1,370,601 vs \$1,650,028) compared to the 2023 period corresponds to the decrease in operating expenses of \$758,899 \$ (37%) (\$1,289,121 vs \$2,048,020) and the decrease the other income and expenses of \$467,613 (-\$77,623 vs \$389,990). During the last seven quarters, their respective averages were \$3,482,251 and \$3,329,051.

The following table presents the selected financial information for the last eight quarters.

	Fiscal 2024	Fiscal 2023				Fiscal 2022		
Quarter ending:	03/31	12/31	09/30	06/30	03/31	12/31	09/30	06/30
	\$	\$	\$	\$	\$	\$	\$	\$
Operating costs	1,289,121	6,969,642	4,310,323	2,370,370	2,048,020	4,828,150	1,391,926	1,384,923
Net loss (profit)	1,370,601	7,680,942	3,839,501	2,865,856	1,658,030	4,930,577	1,799,874	1,608,983
Loss (profit) per share) basic and diluted	0.00	0.02	0.02	0.00	0.00	0.02	0.00	0.01
Current assets	1,765,779	2,225,949	2,428,770	3,560,226	4,694,228	5,551,793	6,630,118	7,887,741
Total Assets	8,035,576	9,059,516	13,981,183	18,612,872	20,335,290	21,612,239	26,832,812	24,175,110
Current Liabilities	5,589,434	5,393,775	4,584,407	4,403,695	4,524,567	4,435,269	3,740,180	732,813
Non-current Liabilities	1,863,226	1,831,559	1,839,475	2,821,545	2,734,415	2,658,300	3,073,818	2,962,525
Sharholders' Equity	582,916	1,834,182	7,557,301	11,387,632	13,076,308	14,518,670	19,018,814	20,479,772

SELECTED FINANCIAL INFORMATION (continued)

Financial period of 2024

During the period ending March 31, 2024, the Company saw a decrease in its Net Loss of \$279,427 (16%) (\$1,370,601 vs \$1,650,028), while operating costs decreased of \$758,899 (37%) (\$1,289,121 vs \$2,048,020) and the decrease in other income and expenses of \$467,613 (-\$77,613 vs \$389,990), during the last three previous periods these costs averaged respectively at \$629,469 et \$989,709.

The following table presents financial information for the periods 2021 at 2024.

	FISCAL 2024	FISCAL 2023	FISCAL 2022	FISCAL 2021
	03/31/24	03/31/23	03/31/22	03/31/21
	\$	\$	\$	\$
Operating expenses	1,289,121	2,048,020	614,465	306,642
Net income (loss)	(1,370,601)	(1,658,030)	(744,701)	506,319
Results per share (basic and diluted)	(0.00)	(0.00)	(0.00)	0.00
Current Assets	1,765,779	4,694,228	4,942,189	5,017,697
Total Assets	8,035,576	20,335,290	21,814,780	19,794,947
Current Liabilities	5,589,434	4,524,567	627,399	535,990
Non-current Liabilities	1,863,226	2,734,415	2,884,277	4,793,584
Shareholders' Equity	582,916	13,076,308	18,303,104	14,465,373

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE FIRST QUARTER AND THE PERIOD OF 2024

Analysis of comprehensive income

Compared to the corresponding periods of 2023, the Company saw a decrease in its Net Loss of \$279,427 (16%) (\$1,370,601 vs \$1,650,028), while operating costs decreased of \$758,899 (37%) (\$1,289,121 vs \$2,048,020) and the decrease in other income and expenses of \$467,613 (-\$77,613 vs \$389,990).

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE FIRST QUARTER AND THE PERIOD OF 2024 (continued)

Analysis of the operating costs

The following table presents the major changes in certain components of comprehensive income compared to the 2023 period for the operating costs of the first quarter and the period ending March 31, 2024.

	QUARTER/PERIOD		Increase /(Decrease)
	2024	2023	
Other operating expenses			
Professional Fee and Consultant			
- Legal fees	38,982	25,824	13,158
- Accounting professional fees	109,630	39,691	69,939
- Business development consultant	68,914	100,159	(32,245)
Travelling expenses	16,612	3,854	12,758
Office expenses	40,333	30,375	9,958
Information to shareholders and registration fees	14,293	17,954	(3,661)
Research and development costs	304,091	1,044,989	(740,898)

Research and development costs

For the first quarter of 2024, there were research and development costs of \$304,091 which is distributed for the QRR Purevap™ project of \$7,511 and an amount of \$296,580 for research on Novacium battery materials. The decrease in research and development costs of \$740,898 compared to the 2023 period is mainly attributable to the tests that were carried out on the QRR Gen 3 in 2023.

Other operating expenses

Professional Fees

For the first quarter and period of 2024 compared to 2023, there is an increase in legal fees of \$13,158 which is related to various current work of the company, an increase in accounting and audit fees of \$69,939 which represents the fees relating to the audit for the 2023 and a decrease in fees for business development consultants of \$32,245 which is related to the development of various markets for products developed by the HPQ.

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE FIRST QUARTER AND THE PERIOD OF 2024 (continued)

Other operating expenses (continued)

Office expenses

The increase in office expenses of \$9,948 for the first quarter and period of 2024 compared to 2023 is mainly related to the increase in insurance for directors and officers .

Traveling expenses

The increase in travel expenses of \$12,758 for the first quarter of 2024 compared to 2023 is related to travelling to Europe for Novacium's business development .

Information to shareholders and registration fees

The decrease of \$3,661 for the first quarter of 2024 compared to 2023 is related to the decrease in our fees on the TSX and OTC stock exchanges.

Analysis of Other Income (Expenses)

The following tables represent the major changes in certain components of other income/(expenses) compared to 2023 for the first quarter of 2024.

	QUARTER/PERIOD		Increase /(Decrease)
	2024	2023	
Financial income (loss)	(20,762)	476,138	(496,900)

Finance income

Financial income fluctuates mainly due to the fair value adjustment of our marketable securities. The Company disposed of 442,000 shares the PyroGenesis for cash amounts totalling of \$217,213, realizing a loss of \$210,650.

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE FIRST QUARTER AND THE PERIOD OF 2024 (continued)

FINANCIAL SITUATION

Financial Position

As at March 31, 2024, the Company had negative working capital of \$3,823,655 (\$3 167 826 as of December 31, 2023). Total Current assets are \$1,765,779 (\$2,225,949 as of December 31, 2023) and current liabilities are \$5,589,434 (\$5,393,775 as of December 31, 2023).

Current assets

Current assets consist of the following:

- Cash of \$513,937 (\$597,404 as at December 31, 2023).
- Marketable securities of \$438,518 (\$676,493 as at December 31, 2023). It represents the fair market value of the shares of PyroGenesis as well as those of Québec Innovative Materials Corp.
- Goods and services taxes receivable of \$102,728 (\$66,545 as of December 31, 2023). This amount represents our last quarter.
- An investment tax credit to be received of \$549,446 (\$693,508 as of December 31, 2023) which includes that of Novacium for an amount of approximately \$460,000.
- Prepaid expenses and other of \$161,150 (\$192,999 as of December 31, 2023). This amount represents directors' and officers' insurance and equipment, annual fees for OTC Markets and the TSX Venture Exchange.

Non-current assets

There were no acquisitions during the first quarter of 2024.

Current liabilities

Consist of the following:

- Trade and other payable of \$4,774,558 (\$4,586,145 as at December 31, 2023) which includes an amount of \$4,054,188 (\$3,982,922 as at December 31, 2023) to a subcontractor.
- Income taxes payable of \$28,223 (\$28,193 as at December 31, 2023)
- Due to Directors of \$84,615 (\$100,000 as at December 31, 2023).
- Royalties payable of \$689,959 (\$667,418 as at December 31, 2023)

Non-current liabilities

Non-current liabilities totalling \$1,863,226 (\$1,831,559 as of December 31, 2023) representing due to directors, officers and a corporation owned by a director for \$920,291 (\$920,291 as at December 31, 2023), a lease liability of \$4,126 (\$6,857 as at December 31, 2023) and royalties payable of \$938,809 (\$904,411 as of December 31, 2023).

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE FIRST QUARTER AND THE PERIOD OF 2024 (continued)

FINANCIAL SITUATION (continued)

Equity

For the period ending March 31, 2024, the Company issued 396,000 units consisting of one common share and one warrant for settlements of accounts payable for the value of \$118,696.

Working capital

As at March 31, 2024, the Company had a cash flow of \$513,937 (\$1,256,526 for 2023).

Operating activities

The use of the Cash flow for operating activities of \$279,112 consists of a Net Loss of \$1,366,744 and non-cash items that have no cash flow impact of the cash flow of \$644,010. The sources the cash flows from working capital operating activities represents an amount of \$443,367 which comes from the increase in HST receivable of \$36,183, a decrease in prepaid expenses and others of \$38,099, a decrease in Investment tax credits receivable of \$143,062, an increase in trade and other payables of \$298,359 as well as an increase in income taxes payable of \$30.

Investment activity

The Cash flow provided by investing activities of \$217,213, consists of the disposal of investments in a subcontractor of \$217,213.

Financing activity

The used of the Cash flow for financing activity in the amount of \$18,375 includes the repayment of dues to directors of \$15,385 and the repayment of lease liabilities of \$2,990. The Company decreased its cash flow by \$80,274 during the period.

The Company's average cash requirements for future quarter are expected to be between \$450,000 and \$500,000 excluding research and development expenses and additions for property, plant and equipment and intangible assets.

As the Company is still in its development phase and focused on innovating silicon solutions and related technology, the Company will likely continue to operate at a loss until the technology can be commercialized, and the Company will require additional funding to fund future operations and expansion plans. The Company does not expect to generate revenue from product sales until it successfully completes the development of its silicon solutions, which may take a number of years and is subject to significant uncertainty. Until it can generate significant revenues from product sales, if ever, the Company expects to finance its operations through a combination of public or private capital or debt or other sources.

Financing activity (continued)

The Company currently has no committed sources of financing available. While the Company has been successful in securing financing in the past, raising additional funds is dependent on a number of factors outside the Company's control, and as such there is no assurance that it will be able to do so in the future. The ability of the Company to meet its commitments and discharge its liabilities as they become due and become profitable is dependent on the successful completion of the development of its technology and its commercial production, its ability to raise additional funding to finance these activities and the continued financial support of shareholders and lenders.

The conditions mentioned above indicate the existence of a material uncertainty that may cast a significant doubt as to the Company's ability to continue as a going concern.

The carrying amounts of assets, liabilities, revenues and expenses presented in the consolidated financial statements and the classification used in the statement of financial position have not been adjusted as would be required if the going concern assumption was not appropriate. Those adjustments could be material.

FINANCIAL COMMITMENTS, CONTINGENCIES AND SUBSEQUENT EVENTS

On September 28, 2015, the Corporation concluded a Development and Exclusivity Agreement with PyroGenesis. In return for the Exclusive Right to use the PyroGenesis-developed technology, it must make the following payments:

- 2024 and after, the highest between 10% of Si sales or \$250,000.

On June 30, 2021, the Company acquired intellectual property for the production of fumed silica materials. Pursuant to the purchase agreement, the Company is committed to pay to the seller the greater of an annual royalty equal to 10% of net revenues, excluding the samples and testing products (as defined in the agreement) generated from the exploitation of the acquired technology or the minimum amounts per the agreement does not exceed the total of sales. Also, the seller is being granted the right to convert, at any time and at its sole discretion, its royalties into a 50% equity stake of HPQ remaining equity in HPQ Polvere.

- 2024, 10% of Fumed Silica materials sales or \$100,000;
- 2025, 10% of Fumed Silica materials sales or \$150,000;
- 2026 and after, 10% of Fumed Silica materials sales or \$200,000.

As at March 31, 2024, the remaining total commitment for the purchase of the Pilot Plant Equipment was approximately \$284,021 for the fumed silica project.

After the end of the period, 1,000,000 stock options were exercised for a total amount of \$215,000 in cash.

CRITICAL ACCOUNTING POLICIES

The preparation of annual financial statements under IFRS requires that management use its judgment makes assumptions and estimates and use hypotheses that influence the application of accounting methods, as well as having an effect on the book value of assets, liabilities, revenues and expenses. The final results could differ from these estimates.

The estimates and hypotheses are regularly reviewed. Any revision of accounting estimates is indicated during the period when the estimates are revised as well as any future periods affected by said revisions.

Information on the hypotheses and estimation uncertainties that present an important risk of creating a significant adjustment during the course of the next financial period are as follows:

- Internally generated intangible assets;
- Evaluation of Income Tax Credits receivable;
- Present value of royalties payable.

Management believes that the majority of the changes will be adopted in the Company accounting methods during the first period starting after the effective date of each new change. The information on the new standards and interpretations as well as the new amendments, which are susceptible to be pertinent to the Corporation's consolidated financial statements, are supplied below.

FUTURE ACCOUNTING POLICIES

At the date of authorization of these consolidated financial statements, certain new standards, amendments and interpretations to existing standards have been published but are not yet effective and have not been adopted early by the Company.

Management anticipates that all of the relevant pronouncements will be adopted in the Company's accounting policies for the first period beginning after the effective date of the pronouncement. Information on new standards, amendments and interpretations that are expected to be relevant to the Company's consolidated financial statements is provided below. Certain other new standards and interpretations have been issued but are not expected to have a material impact on the Company's consolidated financial statements.

IAS 1 Presentation of financial statements

Amendments to the classification of liabilities as current or non-current: includes classification of liabilities as current or non-current.

IFRS 16 Leases – lease liability in case of sale and leaseback

The amendments introduce a new accounting model that affects how a seller-turned-tenant accounts for variable lease payments resulting from a lease-back transaction.

FUTURE ACCOUNTING POLICIES (continued)

IAS 7 Statement of cash flows & IFRS 7 Financial instruments: Disclosure – Supplier finance arrangements

The amendments introduce new communication objectives for a company to provide information on its supplier financing agreements that would enable investors to assess the impact of these agreements on liabilities, cash flows and exposure to the company's liquidity risk. The new disclosure should also include the type and effect of non-cash changes in the book value of financial liabilities that are part of a funding agreement with a supplier.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

As the Corporation is an emerging issuer, management does not need to attest to the establishment and maintenance of Disclosure Controls and Procedures and internal controls relating to financial information as defined under Regulation 52-109.

The Signing Officers of the Issuer are responsible for ensuring that there are processes in place allowing them to gather sufficient information for the statements made in the Certificates.

FINANCIAL INSTRUMENTS

Financial Assets used by the Corporation consist of cash and royalties' receivable are and receivables category.

The financial liabilities of the Corporation include trade and other payables (excluding salaries and personnel-related expenses), the amounts Due to Directors, the amounts due to Directors, Officers and to a corporation held by a director (excluding salaries and Personnel expenses) and royalties payable.

The fair value of royalties' receivables; of due to Directors, Officers and corporations controlled by a director or Officer and the Royalties payable are estimated using an analysis of the discounted cash flows using an interest rate for similar instruments. The fair value of royalties' payable approximates the carrying amount at the end of the period, while the fair value of the due to directors, officers and a corporation held by a director is \$920,291.

The fair value of the marketable securities of a quoted company was estimated based on the market price at the balance sheet date. Marketable securities of a quoted company measured at fair value in the consolidated statements of cash flows as at March 31, 2024.

INFORMATION ON SHARE CAPITAL

Information on financings

On March 31, 2024, the Corporation had 367,692,688 shares issued and outstanding (367,296,688 as at December 31, 2023), 9,799,318 warrants (9,403,318 as at December 31, 2023), 50,454 brokers' warrants (50,454 as at December 31, 2023) and 17,735,000 options (17,735,000 as at December 31, 2023). The number of shares on a diluted basis is 395,277,460.

Information on outstanding shares

As at May 28, 2024, the Corporation had 368,692,688 shares issued and outstanding, 9,799,318 warrants, 50,454 brokers' warrants and 16,735,000 options. The number of fully diluted shares is 395,277,460. The Corporation's share capital consists of an unlimited number of common shares with No Par Value.

RELATED PARTY TRANSACTIONS

For the period ending on March 31, 2024, the sum of \$93,750 (\$375,000 on December 31, 2023) was accounted for as management fees under a contract between the Corporation and a corporation controlled by the Chairman of the Board as part of a consulting agreement with the Corporation. In addition, the Company acquired patents worth \$322,682 as at December 31, 2023 from the managers and shareholders of Novacium S.A.S. .

These activities are part of the normal course of business for the Corporation and are established based on their exchange value as agreed to by the parties.

Accounts payable and other payables include an amount of \$309,252 due to officers and a corporation held by a director (\$186,452 as at December 31, 2023) and an amount of \$3,057 to officers and shareholders of Novacium S.A.S. (\$112,126 as of December 31, 2023).

The Corporation owes to Directors and Officers salaries and remuneration an amount of \$1,004,906. The Corporation has obtained confirmation that payment of an amount of \$920,291, under certain conditions, will not be demanded for a minimum of 12 months and one day after March 31, 2024.

RISK FACTORS

Uncertainties about process technology on a commercial basis

The Company's *PUREVAP™ QRR* silicon manufacturing process and the Company's fumed silica manufacturing process have not been used commercially by the Company and there can be no assurance that the results obtained in small-scale tests can be replicated in commercial quantities, which could have a material adverse impact on the Corporation's projects. The Company's inability to fully commission and produce silicon that meets industry specifications could have a material adverse effect on the Company.

The Company's development of its silicon manufacturing and fumed silica manufacturing processes can be complicated by intellectual property rights held by third parties (also known as freedom-to-operate issues), due to the nature of patents authorized by national patent offices. The Company may be forced to adapt its technology in order to ensure that it does not conflict with intellectual property rights held by third parties. In addition, the Company's ability to successfully challenge the patent rights of third parties depends on national laws and courts, and there can be no assurance that the Company would be able to successfully challenge the patent rights of third parties. In addition, the Company may face increasing

competition from technology similar to its own in the future. Such similar technology may pose a threat to the Company and could prevent it from conducting business operations on an economically viable basis.

Increased production costs

Changes in the Company's cost of production could have a material impact on its financial condition and results of operations. Changes in the costs of the Company's manufacturing operations could occur as a result of unforeseen events, including international and local economic and political events, changes in commodity prices, increased costs and labour shortages could result in changes in profitability. Many of these factors may be beyond the Company's control. The Corporation prepares estimates of cash and future capital costs for its operations and projects. There can be no assurance that actual costs will not exceed such estimates. Exceeding cost estimates could adversely affect the Company's results of operations or future financial condition.

Dependence on technology

HPQ will leverage continuous improvement of technology to meet customer demands for performance and cost and to explore other business opportunities. There can be no assurance that the Corporation will succeed in its efforts in this regard or that it will have the resources to meet this demand. Although management anticipates that research and development will enable the Company to explore other business opportunities, there can be no assurance that such business opportunities will be present or realized. The Company's business advantage will depend to a large extent on HPQ's proprietary intellectual property and technology and the Company's ability to prevent others from copying such proprietary technologies.

HPQ currently relies on intellectual property rights and other contractual or proprietary rights, including (without limitation) copyrights, trade secrets, confidential procedures, contractual provisions, licenses and patents, to protect its proprietary technology. HPQ may need to engage in litigation to protect its patents or other intellectual property rights, or to determine the validity or scope of others' proprietary rights. This type of litigation can be costly and time-consuming, whether the Company is successful or not. HPQ may apply for patents or other similar protections with respect to a particular technology. However, there can be no assurance that any future patent application will actually result in the grant of patents or that, even if patents are granted, they will be of sufficient scope or strength to provide significant protection or commercial advantage to the Company.

In addition, the process of seeking patent protection itself can be lengthy and costly. In the meantime, competitors may develop technologies similar to or superior to HPQ's technology or design from patents held by the Company, thereby negatively affecting the Company's competitive advantage in one or more of its business areas. Despite the Company's efforts, its intellectual property rights may be invalidated, circumvented, challenged, infringed or licensed to third parties. There can be no assurance that the measures the Company may take to protect its intellectual property rights and other rights in these proprietary technologies that are at the heart of the Company's operations will prevent the misappropriation or infringement of its technology.

RISK FACTORS (continued)

Infrastructure, supply and inflation

As the company needs to procure the raw materials required for the proper functioning of the RRQ Purevap silicon manufacturing operations and the fumed silica manufacturing process, their prices and the price of goods and services will fluctuate depending on the level of investment in the sector. As a result, it is reasonable to expect that increased demand could affect the Corporation's economic projections and future competitiveness, which may result in a significant increase in the cost of various products and services. Improved economic conditions across the technology sector will typically increase the costs of both planned exploration and development activities, which must also be integrated into the economic models used for projections of future development and potential activities. Increased demand for and costs of goods or services could result in delays if they cannot be obtained in a timely manner due to insufficient supply and could cause difficulties with schedule and timelines due to the need to coordinate their availability, which could have a significant impact on research and development and/or construction costs of production plants. These factors could have a material adverse impact on the Company's profitability and operations.

Risks associated with the future sale of products.

The Company is dependent on its future sales of products. Even though the Company has made efforts to date to enter into sales agreements, including offtake agreements, for future sales, there can be no assurance that the Company will be able to sell products on terms and conditions that are sufficiently favourable or necessary to ensure the continuity of its operations.

No warranty can be given that the Company will be able to enter into sales agreements, including offtake agreements, with respect to future sales, and, if applicable, no warranty can be given with respect to the amounts of purchase orders or commitments, the quantity of Silicon represented by such purchase orders and the commitments or the time of their receipt. Factors that may affect orders and commitments include the Company's ability to reliably and consistently produce silicon products in accordance with customer requirements and customer confidence in such capacity, market conditions, demand for products that require Silicon general market conditions and the strength of the economy.

If, for any reason, the Company is unable to produce the Products in accordance with the terms and specifications set forth in any Sales Agreement, such failure or breach of the Agreements, which would effectively result in the termination of the Agreements or the payment of damages, could adversely affect the Company's operations and financial condition. Even if the Company was able to comply with the requirements set out in each of the sales agreements, there can be no assurance that the third parties to the agreements would accept or be able to purchase the production at the prices and quantities set out in the relevant offtake agreement with the Corporation.

RISK FACTORS (continued)

Uncertainty in future production estimates

The Company prepares internal estimates and projections for the future production of materials produced with the *PUREVAP™ QRR* Silicon manufacturing process, and the fumed silica manufacturing process. This information is forward-looking, and no assurance can be given that any such estimates will be realized. These estimates are based on existing plans and other assumptions that change from time to time, including: mineral reserve and mineral resource estimates; the availability, accessibility, sufficiency and quality of Silicon; the Company's production costs; the Company's ability to maintain and increase production levels; the adequacy of the Corporation's infrastructure; the performance of the Corporation's workforce and equipment; the Corporation's ability to maintain and obtain mineral interests and permits and the Company's compliance with existing and future laws and regulations. The Company's actual production may differ from estimates for a variety of reasons, including: raw material purchase prices; natural phenomena, such as adverse weather conditions, water availability, flooding and seismic activity; and unexpected labour shortages, strikes, opposition or blockades from local communities where manufacturing units could be located. Failure to meet the estimated guidance could adversely affect the Company's cash flows, revenues, results of operations and future financial position.

No income and loss history

Since the Corporation does not generate revenue, it is dependent on future financing to continue its operations or even remain in business. The Company has not generated any revenue since its incorporation. The development of the *PUREVAP™ QRR* silicon manufacturing process and the fumed silica manufacturing process are among the Company's business objectives. There is no guarantee that these projects will be commercially viable.

In addition, the Company has no history of profitable operations and there can be no assurance that the Company will ever be profitable. Exceeding cost estimates could adversely affect the Company's results of operations or future financial condition. It incurred net losses in the fiscal years ended December 31, 2021, 2022 and 2023. The Company's management does not anticipate any revenue for future fiscal years and believes that the Company may incur ongoing losses in the near future. There is no guarantee that it will reach a stage of profitability in the short term or at all.

The Corporation's future success will depend in large part on its ability to meet its contractual commitments, which are operationally and financially significant. In general, the Company's revenues will also be influenced by economic conditions and its ability to begin production and to manage its growth.

RISK FACTORS (continued)

Negative operating cash flow

The Company has no history of revenues from its operating activities. The Company's cash and cash equivalents were representing approximately \$513,937 and \$597,404 respectively as of March 31, 2024 and December 31, 2023. During the period ending March 31, 2024 and the year ending December 31, 2023, the Company recorded negative cash flow from its operating activities of \$279,112 and \$1,264,207, respectively. For the period ending March 31, 2024 and the year ending December 31, 2023, the Company had a current liability of \$5,589,434 and \$5,393,775. For the period ending March 31, 2024 and the year ended December 31, 2023, the Company had an average monthly cash expense rate of approximately of \$266,000 and \$659,000 per month, including additions to fixed assets, tangible property, facilities and equipment, intangible assets and deposits with suppliers, and any operating expenses and capitalized development costs not covered by grants. The Company expects to maintain negative cash flows from its operating activities in future periods, at least until commercial production begins and profitability is achieved through the production of materials produced with the *PUREVAP™ QRR* Silicon manufacturing process and the fumed silica manufacturing process. To the extent that the Company has negative cash flows in future periods, the Company may need to allocate a portion of its existing working capital to fund such negative cash flows.

Capital requirements

The development of the *PUREVAP™ QRR* silicon manufacturing process and the fumed silica manufacturing process will require significant additional funding. The only sources of funds available to the company are the issuance of additional share capital and borrowing. There is no assurance that such funding will be available, on favorable terms or sufficient to meet needs, which could have a negative impact on the business and its financial position. Failure to obtain sufficient funding can result in delays or even indefinite postponement of technology development work and even loss of ownership in new technologies.

Environmental regulations and requirements

The company's activities require permits from various government authorities and are governed by laws and regulations on production, exports, taxes, labour standards and occupational safety, as well as the environment and other matters.

Additional costs and delays may be caused by the need to comply with laws and regulations. If the company is unable to obtain or renew permits or approvals, it may be forced to reduce or cease its exploration or development activities.

Uninsured risks

The Company's operations are subject to certain risks and hazards, including harsh environmental conditions, industrial accidents, labour disputes, unexpected events, landslides and natural phenomena such as adverse weather conditions, floods and earthquakes. Such events could result in injury or death, environmental or other damage to the Company's or other companies' properties or production facilities, monetary loss, and possible legal liabilities.

RISK FACTORS (continued)

Permanence of the company

The future of the company depends on its ability to finance its operations and develop the assets it holds. Failure to obtain sufficient funding may result in the Corporation not being able to continue as a going concern, realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

Loss of control

The company is subject to the loss of control of its subsidiaries, entities that have entered into agreements with PyroGenesis Canada Inc. in which they have undertaken to pay royalties to the latter and have granted it options to convert said royalties into shares of their share capital for a number of shares equivalent to the number of shares held at that time by HPQ.

Reliance on key personnel and technology partners

The Corporation's success and viability depend to some extent on its ability to attract and retain qualified key management personnel. Competition for such staff is intense and can have an impact on the ability to attract and retain such staff. The loss of any key personnel may have a material adverse effect on the Corporation, its operations and its financial condition. As well, the Company's success and viability depend in some respects on its ability to maintain a good relationship with its priority technology partner, PyroGenesis Canada Inc.

Global Financial Conditions

The Company's financial results are linked to Canadian and global economic conditions. Increased uncertainty regarding regional and global financial stability could result in lower revenues for the Company and decreased credit availability and the Company's ability to raise capital. Global financial conditions continue to be characterized as volatile. In recent years, especially since the recent outbreak of COVID-19, global markets have been negatively impacted by various credit crises. Many industries, including the technology industry, have been affected by these market conditions. Global financial conditions remain subject to sudden and rapid destabilization in response to future events, as government authorities may face limited resources to respond to future crises. A continued or worsening slowdown in financial markets or other economic conditions, including, but not limited to, consumer spending, employment rates, business conditions, inflation, energy costs, consumer debt levels, lack of available credit, financial market conditions, interest rates and tax rates, may adversely affect the Company's growth and profitability. Future crises can be precipitated by a number of causes, including natural disasters, geopolitical instability, changes in energy prices or sovereign defaults. Should increased levels of volatility continue or in the event of a rapid destabilization of global economic conditions, this could have a material adverse effect on commodity prices, demand for metals, availability of credit, investor confidence and general liquidity in financial markets, which could have a negative impact on the Company's operations and the Company's stock prices.

Public health crisis

The global financial environment and the global economy in general have, at various times in the past and may experience extreme volatility in the future, in response to economic shocks or other events, such as the recent COVID-19 respiratory illness pandemic. Many industries are affected by market volatility in response to the widespread emergence of epidemics, pandemics or other health crises. Among the main impacts of these conditions are devaluations and high volatility in global financial, commodity and currency markets, as well as a lack of market confidence and liquidity. Financial institutions and large corporations can go bankrupt or be rescued by government authorities. Access to finance may also be negatively affected by future liquidity crises around the world. These factors may affect the Company's ability to obtain equity or debt financing and, if applicable, to obtain such financing on terms favorable to the Company. Increased levels of volatility and market turbulence could have a material adverse impact on the Company's business and anticipated growth and the trading price of its securities could be adversely affected.

The international response to the spread of COVID-19 has resulted in significant travel restrictions, temporary business closures, quarantines and an overall reduction in consumer activity. In particular, the continued global spread of COVID-19 could have a significant and adverse impact on the Company's business, including, but not limited to, employee health, workforce availability and productivity, travel restrictions, supply chain disruptions, increased insurance premiums, the availability of industry experts and personnel and other factors that depend on future developments beyond the Company's control.

While the Company is implementing business continuity measures and government recommendations to mitigate and reduce any potential impact related to COVID-19 on its operations, operations, supply chain and financial condition, the spread of COVID-19 could have a material negative impact on the Company's workforce and the development of these technology projects. Despite COVID-19, the Company continues to develop these technology projects through remote work solutions with its management team, employees, consultants and business partners, as well as government representatives. The magnitude and impacts of COVID-19 on the Company's operations cannot currently be determined as they depend on future developments that cannot be predicted, including but not limited to the duration of the pandemic, the severity of the virus and the ability to treat it, the ability to collect sufficient data to track the virus, and the collective measures taken to curb the spread of the virus.

Forward-Looking Statements

By their nature, forward-looking statements involve numerous known and unknown assumptions, risks and uncertainties, both general and specific, that could cause actual results to differ materially from those implied by the forward-looking statements or contribute to the possibility that predictions, forecasts or projections may prove materially inaccurate.

RISK FACTORS (continued)

Shareholder activism

In recent years, publicly traded companies have been the subject of increasing demands from activist shareholders for changes in corporate governance practices, such as executive compensation practices, social issues or certain corporate actions or reorganizations. There can be no assurance that activist shareholders will not publicly request the Company to make certain governance changes or engage in certain corporate actions.

Responding to activist shareholder challenges, such as proxy races, media campaigns or other activities, could be costly, time-consuming and negatively impact the Company's reputation and divert attention and resources from management and the Board of Directors, which could adversely affect the Company's business and results of operations. Even if the Company undertakes to make such corporate governance changes or corporate actions, activist shareholders may continue to promote or attempt to make other changes and may attempt to acquire control of the Company to implement such changes. If activist shareholders seeking to increase short-term shareholder value are elected to the Company's Board of Directors, this could have a negative effect on the Company's future operations and activities. In addition, shareholder activism could create uncertainty about the Company's future strategic direction, resulting in the loss of future business opportunities, which could have a negative impact on the Company's business, future operations, profitability and ability to attract and retain qualified personnel.

Disclosure and Internal Control

Internal control over financial reporting is a process designed to provide reasonable assurance as to the reliability of financial information and the preparation of financial statements for external purposes in accordance with IFRS. Disclosure controls and procedures are designed to ensure that the information required by the Corporation to disclose in reports filed with securities regulators is recorded, processed, summarized and disclosed in a timely manner, and is accumulated and reported by the Corporation's management, as appropriate, to enable required decisions to be made in a timely manner. The Corporation has invested resources to document and analyze its system of disclosure controls and internal control over financial reporting. A system of control, no matter how well designed and operated, can only provide reasonable, not absolute, assurance as to the reliability of financial information and the preparation of financial statements. The Company's failure to meet the requirements of applicable Canadian securities laws on an ongoing and timely basis could result in a loss of investor confidence in the reliability of the Company's financial statements, which could adversely affect its operations and adversely affect the price of the Common Shares. In addition, any failure to implement or difficulties in implementing the required new or enhanced controls could adversely affect the Company's results of operations or prevent it from meeting its reporting obligations.

(s) Bernard Tourillon, President and Chief Executive Officer

(s) François Rivard, Chief Financial Officer

Montreal, May 28, 2024