

## HPQ Silicon and Novacium Sign MOU with GLD Alloys to produce Green Hydrogen with METAGENE™

*A partnership that could accelerate the production of GREEN hydrogen at scale*

**Montreal, Canada, April 16<sup>th</sup>, 2025** — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#), [OTCQB: HPQFF](#), [FRA: O08](#)), a technology company specializing in green engineering processes, is re-issuing an amended version of its April 10<sup>th</sup>, 2025, press release at the request of **l’Autorité des marchés financiers**.

The press release focuses on the recently signed Memorandum of Understanding (MOU) between HPQ, its French subsidiary **NOVACIUM SAS (“Novacium”)**, and [GLD Alloys](#) (GLD), a leading Malaysian recycled aluminum producer.

This MOU is a strategic agreement that could accelerate the industrial-scale production of METAGENE™ fuel — a proprietary solution developed by Novacium that enables the autonomous generation of high-pressure green hydrogen. There are no binding terms or financial commitments associated with this MOU at this stage.

*“This partnership with HPQ and Novacium is a unique opportunity to participate in the transition toward a cleaner energy industry,”* said **Mr. John Lee**, CEO of GLD Alloys. *“With METAGENE™, we are combining sustainability and innovation to meet the world’s rapidly growing demand for green hydrogen — a market with growth potential.”*

### Strategic Alliance at the Heart of Green Hydrogen Innovation

Through this partnership, HPQ, Novacium, and GLD are combining their strengths to leverage GLD’s expertise in producing low-carbon recycled aluminum alloys — a key component of the METAGENE™ fuel. With an annual capacity of 200,000 tonnes of recycled aluminum, GLD offers high quality and reliable supply — key enablers for a rapid scale-up of the METAGENE™ process in the global clean energy market.

Based on a proprietary formulation developed by Novacium; using a recycled aluminum-silicon alloy, **METAGENE™ fuel is robust, safe, and capable of releasing 1.25 m<sup>3</sup> of hydrogen per kilogram, with yields ranging from 90% to 100%** <sup>[1]</sup>. These performance levels are comparable to those achieved with aluminum nanopowders <sup>[2]</sup>, but without the risks typically associated with nanomaterials — including explosion hazards, health concerns, and transport constraints.

*“We are on the cusp of an energy revolution,”* said Dr. Jed Kraiem, COO of Novacium. *“METAGENE™ makes green hydrogen available on demand — safely and reliably. That’s a winning combination.”*

### A 95% Reduction in Carbon Impact Thanks to Recycled Aluminum

The use of recycled aluminum by GLD in the METAGENE™ process results in a substantial reduction in carbon emissions — **95% less CO<sub>2</sub> compared to primary aluminum**, according to industry benchmarks <sup>[3]</sup>. For instance, producing one tonne of recycled aluminum emits approximately **0.6 tonnes of CO<sub>2</sub>**, versus **12 tonnes for primary aluminum** <sup>[3]</sup>. Assuming an annual production of **500 tonnes of METAGENE™ fuel, this would result in a reduction of over 5,500 tonnes of CO<sub>2</sub> emissions per year — equivalent to the annual emissions of approximately 1,200 gasoline-powered cars** <sup>[4]</sup>. This environmental benefit could enhance METAGENE™’s appeal to impact-focused investors and clean energy stakeholders.

*“GLD Alloys is the ideal partner to fast-track the advancement of our METAGENE™ technology,”* said Bernard Tourillon, CEO of HPQ Silicon. *“Their substantial production capacity and strong environmental commitment positions us to seize opportunities in the rapidly growing green hydrogen market.”*

## A Springboard to pre-Commercialization

This partnership marks a new milestone in the development of METAGENE™, with the goal of advancing the project from pilot phase to full-scale industrial and commercial production. By leveraging GLD's industrial expertise, HPQ and Novacium aim to optimize their proprietary fuel supply chains and gain better control over production costs compared to competing technologies.

This access to a key supply source, combined with METAGENE™'s autonomous operation — requiring no electricity, costly storage, or heavy infrastructure — positions it as an ideal solution in the rapidly expanding green hydrogen market, which is projected to reach US\$500 billion by 2030 <sup>[5]</sup>.

In 2025, a pilot phase — currently under discussion with the **French Directorate General of Armaments (DGA)** for potential financial support — will produce **10 kg of hydrogen per day**, with operational field tests planned for the first half of 2026.

*"With our unique technology and minimal carbon footprint, HPQ and Novacium are ideally positioned to lead the next wave of hydrogen-based green energy,"* added Mr. Tourillon.

## REFERENCE SOURCES

- [1] Novacium's internal estimate, based on lab-level testing in 2024.
- [2] Boris P. Aduiev and al., Hydrogen production by oxidation of aluminum nanopowder in water under the action of laser pulses; [Int. Journal of Hydrogen Energy Vol. 48, Issue 59](#), 12 July 2023, P. 22484-22494
- [3] Data based on International Aluminium Institute (IAI) standards.
- [4] Calculation based on an average emission of 4.6 tCO<sub>2</sub>e per car/year (French Environment and Energy Management Agency, ADEME).
- [5] Green Hydrogen Market Projections by BloombergNEF, 2023.

## About NOVACIUM SAS

Novacium is an HPQ - affiliated company that started in Q3 2022. This green technology startup is based in Lyon, France and is a partnership with HPQ and three of France's leading research engineers, Dr. Jed KRAIEM PhD, Novacium's Chief Operating Officer ("COO"), Dr. Oleksiy NICHIPORUK PhD, Novacium's Chief Technical Officer ("CTO"), and Dr. Julien DEGOULANGE PhD, Novacium's Chief Innovation Officer ("CIO"). Novacium is a new Research and Development company which allows researchers to develop their own technology in high-added-value fields connected to renewable energy and allows HPQ Silicon Inc. a Canadian company, to expand the depth and reach of its technical team to help develop its silicon and new renewable energy projects.

## About HPQ Silicon

HPQ activities are centred around the following five (5) 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 Silica Polvere Inc being developed for HSPI by PyroGenesis.
- 2) Becoming a producer of silicon-based anode materials for battery applications with the assistance of NOVACIUM SAS.
- 3) HPQ SILICON affiliate NOVACIUM SAS is developing a low carbon, chemical based on demand and high-pressure autonomous hydrogen production system.

- 4) HPQ SILICON affiliate NOVACIUM SAS is developing a new process to transform black aluminium dross into a valuable resource.
- 5) Becoming a zero CO<sub>2</sub> low-cost (Capex and Opex) producer of High Purity Silicon (2N+ to 4N) using our *PUREVAP™ “Quartz Reduction Reactors” (QRR)*, a proprietary technology owned by HPQ being developed for HPQ by PyroGenesis.

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

#### **Cautionary Note Regarding Forward-Looking Information**

This press release contains “forward-looking information” and “forward-looking statements” within the meaning of applicable securities legislation (collectively, “forward-looking statements”), including, but not limited to, statements relating to future financial or operating events or future performance of the Company, and reflecting management’s expectations and assumptions regarding the Company’s growth, results, performance, and business prospects and opportunities. Such forward-looking statements reflect management’s current beliefs and are based on information currently available to it. In some cases, forward-looking statements can be identified by words such as “aim”, “anticipate”, “aspire”, “attempt”, “believe”, “budget”, “could”, “estimate”, “expect”, “forecast”, “intend”, “may”, “mission”, “plan”, “potential”, “predict”, “progress”, “outlook”, “schedule”, “should”, “study”, “target”, “will”, “would” or the negative of these terms or other similar expressions concerning matters that are not historical facts.

In particular, forward-looking statements include, but are not limited to, the Company’s and Novacium ability to develop the METAGENE™ technology, a process that harnesses hydrogen released from low-cost and low-carbon footprint metallic alloys via hydrolysis, establishing an autonomous, on-demand pressurized energy process, and build a first commercial prototype within the timeline, to provide high-performing and reliable METAGENE™ systems while promoting sustainability and supply chain traceability, and to position its METAGENE™ operation in the capital markets, the expected results of the initiatives described in this press release, and those statements which are discussed under the “About HPQ Silicon” and “About Novacium” paragraph and elsewhere in the press release which essentially describe the Company’s outlook and objectives.

Additionally, the forward-looking statements include, but are not limited to, the Company’s future results, the intended fabrication of the first METAGENE™ prototype pilot plant, its testing and timeline to commercial scale up, the economic performance and product development efforts, as well as the Company’s expected achievement of milestones, including the ability to conclude an sell agreement and obtain sufficient financing for the future development on favorable terms for the Company.

Further, these forward-looking statements include the Company’s ability to achieve its METAGENE™ technology strategy and its intended results, market trends, the consumer demand for systems, the Company’s competitive advantages, macroeconomic conditions, the impact of applicable laws and regulations, and any information as to future plans and outlook for the Company are or involve forward-looking statements.

Forward-looking statements are based on estimates and assumptions that, while considered reasonable by the Company at the time of such statements, are inherently subject to significant business, economic, and competitive uncertainties and contingencies. These estimates and assumptions are not guarantees of future performance and may prove incorrect. These statements rely on various factors, including current technological trends, safe and effective operations, timely delivery and installation of future production equipment at estimated prices, assumed METAGENE™ technology sale prices, future exchange and interest rates, political and regulatory stability, commodity prices and production costs, the receipt of necessary approvals, licenses, and permits on favorable terms, sustained labor stability, financial and capital market conditions, availability of critical supplies and equipment, tax assumptions, CAPEX and OPEX estimates, economic and operational projections, local infrastructure, and overall business prospects. Forward-looking statements are also subject to risks, uncertainties, and other factors that may cause actual results to differ materially, including the outcome of development, engineering, and planning activities, market conditions, competition, pricing pressures, risks inherent to mining exploration and development, the commercial viability of the Company’s technology, project timelines, business continuity challenges, geopolitical instability, and other industry risks. Additionally, there can be no assurance that the conditions precedent of offtake agreements, product qualification requirements, and commercial operations will be met, nor that the Company will fulfill the expectations of financing partners and certifying bodies.

Forward-looking statements are subject to known or unknown risks and uncertainties that may cause actual results to differ materially from those anticipated or implied in the forward-looking statements. Risk factors that could cause actual results or events to differ materially from current expectations include, among others, delays in the scheduled delivery times of the equipment, the ability of the Company to successfully implement its strategic initiatives and whether such strategic initiatives will yield the expected benefits, the availability of financing or financing on favorable terms for the Company, the dependence on commodity prices, the impact of inflation on costs, the risks of obtaining the necessary permits, the operating performance of the Company’s assets and businesses, competitive factors in the graphite mining and production industry, changes in laws and regulations affecting the Company’s businesses, political and social acceptability risk, environmental regulation risk, currency and exchange rate risk, technological developments, the impacts of the global COVID-19 pandemic and the governments’ responses

thereto, and general economic conditions, as well as earnings, capital expenditure, cash flow and capital structure risks and general business risks. A further description of risks and uncertainties can be found in HPQ's Annual Information Form dated March 21, 2025, including in the section thereof captioned "Risk Factors", which is available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca). Unpredictable or unknown factors not discussed in this Cautionary Note could also have material adverse effects on forward-looking statements.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that may cause results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Forward-looking statements are provided for the purpose of providing information about management's expectations and plans relating to the future. The Company disclaims any intention or obligation to update or revise any forward-looking statements or to explain any material difference between subsequent actual events and such forward-looking statements, except to the extent required by applicable law.

Market and industry data presented throughout this press release was obtained from third-party sources and industry reports, publications, websites and other publicly available information, as well as industry and other data prepared by the Company or on the behalf of the Company based on the Company's knowledge of the markets in which the Company operates, including information provided by suppliers, partners, customers and other industry participants.

The Company believes that the market and economic data presented throughout this press release is accurate as of the date of publication and, with respect to data prepared by the Company or on behalf of the Company, that estimates and assumptions are currently appropriate and reasonable, but there can be no assurance as to the accuracy or completeness thereof. The accuracy and completeness of the market and economic data presented throughout this press release are not guaranteed and the Company does not make any representation as to the accuracy of such data.

Actual outcomes may vary materially from those forecast in such reports or publications, and the prospect for material variation can be expected to increase as the length of the forecast period increases. Although the Company believes it to be reliable as of the date of publication, the Company has not independently verified any of the data from third-party sources referred to in this press release, analyzed or verified the underlying studies or surveys relied upon or referred to by such sources, or ascertained the underlying market, economic and other assumptions relied upon by such sources. Market and economic data are subject to variations and cannot be verified due to limits on the availability and reliability of data inputs, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey.

Further information regarding the Company is available in the SEDAR+ database ([www.sedarplus.ca](http://www.sedarplus.ca)), and on the Company's website at: [www.hpqsilicon.com](http://www.hpqsilicon.com)

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