



HPQ Silicon's Novacium to Present HyDRAS™ Research on Hydrogen Production and Aluminum Waste Valorization at COM 2026

- Research to be presented at COM 2026 highlights Novacium's proprietary HyDRAS™ process, which combines black dross and bauxite residue to produce hydrogen while recovering value from aluminum industry waste.

MONTREAL, Canada, August 20, 2026 — [HPQ Silicon Inc.](#) ("HPQ" or the "Company") (TSX-V: [HPQ](#), OTCQB: [HPQFF](#), FRA: [008](#)), a technology company specializing in advanced materials innovation and the development of next-generation processes, is pleased to announce that research conducted by its France-based strategic partner Novacium SAS ("Novacium") on its proprietary HyDRAS™ (Hydrogen from Dross and Red Mud for Aluminum Sustainability) process has been accepted for presentation at COM 2026.

The 65th Annual Conference of Metallurgists is organized by the Metallurgy and Materials Society (MetSoc) of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

The presentation, to be delivered by Diego Guerrero, MSc., PhD Student at Université Lyon 1 and Novacium, is scheduled for August 20 at 16:00 Calgary time and is entitled, "Aluminum Dross and Bauxite Residue Co-Valorization via Hydrogen Production: A New Perspective on Aluminum Sustainability." The presentation will highlight research conducted by Novacium in collaboration with Université Claude Bernard Lyon 1 / CNRS / LAGEPP and Casthouse Engineering and Technology AG. The illustration below provides a simplified overview of the HyDRAS™ process.



Image 1) Simplified overview of the HyDRAS™ process



Turning Aluminum Industry Waste Into a Potential Resource

Black dross and bauxite residue (“red mud”) represent two significant waste-management challenges for the aluminum industry. The HyDRAS™ process combines these two waste streams by using bauxite residue to enhance hydrogen production from the residual aluminum in black dross.

Under the test conditions reported in the COM 2026 paper, using bauxite residue more than doubled hydrogen yield and significantly increased the hydrogen production flowrate, compared with tests conducted without an activation agent. This creates the potential for a circular approach in which one aluminum industry residue helps recover value from another while producing hydrogen and potentially recoverable heat.

The implications for bauxite residue management are particularly noteworthy. Approximately 175 million tonnes of bauxite residue are generated each year globally ^[1], while large-scale beneficial uses remain limited. In Canada, approximately one million tonnes are generated annually in Québec ^[2], making the development of new beneficial uses for this material particularly relevant.

“What makes HyDRAS™ particularly interesting is that we are looking at two aluminum industry waste streams not simply as environmental liabilities, but as potential sources of recoverable value,” said Bernard Tourillon, President and CEO of HPQ Silicon. “For Québec, where nearly one million tonnes of bauxite residue are generated every year and the government has already supported initiatives to find beneficial uses for this material, the relevance is clear. Combining bauxite residue valorization with hydrogen production is what makes the HyDRAS™ approach particularly interesting from both an environmental and commercial perspective.”

HyDRAS™ Advancing Toward Industrial Pilot Scale

Building on the results to be presented at COM 2026 and subsequent development work, Novacium believes the HyDRAS™ process is now ready to advance toward industrial pilot-scale demonstration.

The next phase will focus on demonstrating the process under industrially relevant conditions and generating the operating and economic data required to evaluate potential commercial applications.

The results provides the technical foundation for this next stage. The work establishes key process parameters and concludes that the results provide a basis for advancing the technology toward industrial applications.

Strategic Relevance for HPQ

Under its exclusive North American licensing agreement with Novacium, HPQ holds the rights to commercialize Novacium’s hydrogen technologies in Canada, the United States and Mexico.

Successful industrial pilot-scale validation of HyDRAS™ could therefore provide HPQ with a pathway to evaluate commercial deployment opportunities across North America, including within Québec’s established aluminum industry.

Bauxite Residue Valorization — A Recognized Québec Priority

The development of beneficial uses for bauxite residue has already attracted public-sector support in Québec.



In 2020, the Government of Québec announced a \$2 million investment in a more than \$9 million circular-economy project aimed specifically at demonstrating the treatment and valorization of bauxite residue at the Vaudreuil site. The project included the construction and operation of a semi-commercial demonstration unit ^[3].

This objective is also consistent with Québec's broader residual-materials policy, which seeks to maximize the value recovered from residual materials, including their potential use for energy production ^[4].

Against this backdrop, HyDRAS™ represents a potentially complementary approach, using bauxite residue to help recover value from black aluminum dross while producing hydrogen.

Reference Sources

1. Svobodova-Sedlackova et al. (2024), *Mapping the research landscape of bauxite by-products (red mud): An evolutionary perspective from 1995 to 2022*, [Heliyon, 10\(3\), e24943](#).
2. Viana et al. (2026), *Evaluation of the potential environmental impacts and benefits of producing alkali-activated concrete from bauxite residue*, [Journal of Cleaner Production](#).
3. Gouvernement du Québec (2020), *Projet d'économie circulaire au Saguenay–Lac-Saint-Jean – Québec investit 2 M\$ pour la valorisation de résidus de bauxite*.
4. Gouvernement du Québec / Ministère de l'Environnement, *Politique québécoise de gestion des matières résiduelles*.

About HPQ Silicon

[HPQ Silicon Inc.](#) is a Quebec-based TSX Venture Exchange industrial issuer ([TSX-V: HPQ](#)) focused on innovation in advanced materials and critical process development. In partnership with its research and development partner **Novacium**—of which HPQ is a shareholder—the Company is advancing next-generation **silicon-based anode materials** (Gen3 and Gen4) for batteries, commercializing its **ENDURA+ lithium-ion cells**, and developing breakthrough **clean-hydrogen** and **waste-to-energy** technologies, for which HPQ holds exclusive North American rights.

HPQ is also pursuing proprietary technologies to become a low-cost, zero-CO₂ producer of **fumed silica** with technical support from PyroGenesis Inc. Together, these initiatives position HPQ to capture growth opportunities in the energy storage, clean hydrogen, and advanced materials markets essential to achieving global net-zero goals.

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

About NOVACIUM SAS

Novacium is an innovative technology start-up created in 2022, in France. It is an engineering and R&D company dedicated to materials for energy, with a specialization in silicon and hydrogen. Novacium is developing 2 technologies. The first concerns a new silicon-based anode material that significantly increases the capacity of Li-ion batteries. Novacium's second activity is the generation of hydrogen. Novacium is developing an autonomous hydrogen generation system for civil and military applications fueled by a patented alloy based on silicon and aluminum.



Cautionary Note Regarding Forward-Looking Information

This press release contains forward-looking statements. These statements rely on assumptions about technology performance, market demand, permits, financing, supply chains, and economic conditions but remain subject to significant risks, including delays, regulatory challenges, competition, pricing, financing availability, and macroeconomic uncertainties. Actual outcomes may differ materially from expectations. Detailed risk factors are outlined in HPQ's Annual Information Form available on SEDAR+. Forward-looking information is provided solely to outline management's future expectations and objectives.

A more detailed cautionary note regarding forward-looking information related to HPQ Hydrogen technologies is available for download [[here](#)].

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

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