

## HPQ LAUNCHES REVOLUTIONARY AND BREAKTHROUGH GREEN HYDROGEN EXTRACTION TECHNOLOGY VENTURE

**MONTREAL, Canada, Aug. 24, 2021** — [HPQ Silicon Resources Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#)) ([OTCQX: HPQFF](#)) ([FWB: UGE](#)), an innovative silicon solutions and technology development company, is pleased to announce the signature of a Memorandum of Understanding (“Agreement”) with EBH<sub>2</sub> Systems SA, (“EBH<sub>2</sub>”) a Swiss company that possesses a proprietary electrolysis technology that can efficiently extract, from virtually any water source including salt water, a Clean Hydrogen also called Green Hydrogen that can be used to create low-cost electricity with no environmental impact.

### **EBH<sub>2</sub> SYSTEMS SA DEVELOP A GREEN AND SCALABLE PROCESS TO PRODUCE CLEAN HYDROGEN**

EBH<sub>2</sub> has filled a provisional patent for its new and novel process to make Green Hydrogen, a process that is scalable and adaptable to numerous applications from various modes of land and sea transport to single home dwellings, district wide power generation and large-scale industrial applications. EBH<sub>2</sub> first successfully tested prototype model has a clean energy production capacity starting at 1 Megawatt of power that can be produced over 7 days from 2 litres of water; sufficient energy to power a typical three (3) bedroom suburban house. ([LINK TO VIDEO](#))

### **WORKING TOGETHER TO DEVELOP AN INDUSTRIAL SCALE EBH<sub>2</sub> SYSTEM TO PRODUCE GREEN SILICON**

EBH<sub>2</sub> believes it can scale to power the planned high purity silicon and Nano silicon production by HPQ. If successful, HPQ proposes to bundle the energy production capability of EBH<sub>2</sub> systems with its silicon production to further reduce the environmental footprint of its developing high purity silicon, nano powders, and other Renewable Energy products. Under the Agreement HPQ can acquire a perpetual world-wide license to sell or deploy the bundled HPQ Technologies - EBH<sub>2</sub> generator-based systems anywhere in the world.

### **COMBINING FORCES TO ESTABLISH A NORTH AMERICAN EBH<sub>2</sub> GENERATOR SALES CAPABILITY**

The Agreement establishes the terms of the creation of a new Joint venture Company (“NEWCO”) owned by HPQ and EBH<sub>2</sub> that will market, sell and service EBH<sub>2</sub> systems and products in North America (Canada, Mexico, and the United States). The potential cost and GHG reduction benefits of the EBH<sub>2</sub> first commercial size model are huge plus the units could readily replace solar panels or standby generators for homeowners. The global standby generator market is anticipated to grow by 4.9% CAGR between 2021 and 2025, attaining US\$ 1.3 billion by 2025. North America has the largest market share at 33.87% in 2019, a market expected to grow with a CAGR of 3.7% to 2025.<sup>1</sup>

### **US DOE PUSHING FOR A REDUCTION IN CLEAN HYDROGEN PRODUCTION COST TO US\$1 PER KILOGRAM**

To encourage new and creative solutions to bolster clean energy production, the U.S. Department of Energy has just launched what is described as an ambitious [Hydrogen Earthshot Program](#) aimed at reducing the cost of clean hydrogen by 80% to **\$1 per 1 kilogram** in **1 decade** (by 2030).

### **EBH<sub>2</sub> SYSTEMS PRODUCE CLEAN HYDROGEN FOR LESS THAN US\$ 1 PER KILOGRAM**

Currently, production of Clean Hydrogen from renewable energies (Green Hydrogen), cost about US\$5 per kilogram, giving Clean Hydrogen a cost disadvantage compared to hydrogen produced using fossil fuels (Grey and Blue Hydrogen) which have a US\$1 per kilogram cost<sup>2</sup>. EBH<sub>2</sub> is confident its cost per kilogram to produce its Clean Hydrogen is less than US\$1, indicating that the EBH<sub>2</sub> module already surpasses the Hydrogen Earthshot program goals and is cost competitive compared to fossil fuels base hydrogen.

<sup>1</sup> <https://www.marketwatch.com/press-release/standby-generator-market-top-companies-business-growth-size-and-forecast-2025-2021-07-13>

<sup>2</sup> <https://www.bofaml.com/en-us/content/esg-research/green-hydrogen-market-importance.html>

*“HPQ has been at the forefront of Silicon innovation development since 2015, yet the fact remains that converting quartz into silicon is a highly energy intensive process. EBH<sub>2</sub> Systems SA, with their unique process to extract hydrogen from water to generate cheap green energy present HPQ with one of these games changing synergetic opportunities that we simply could not overlook,” said Bernard Tourillon, President and CEO of HPQ Silicon. “When EBH<sub>2</sub> demonstrates that the system can do what they say it will, HPQ will be incredibly well positioned to reduce the cost and environmental footprint of making its silicon materials all the while opening up new, and massive addressable markets for a system that can produce cheaply green hydrogen, on demand.”*

## **ABOUT GREEN HYDOGEN**

According to Haim Israel, head of Thematic Investing Strategy at BofA Global Research and lead author of its 103-page primer on hydrogen, this time the excitement is justified. “We think we’re reaching an inflection point where green hydrogen could supply our energy needs, fuel our cars, heat our homes and be used in industries that have no economically viable alternative to fossil fuels,” he says. “Together with renewable electricity, green hydrogen gives us a shot at attaining a zero-carbon-emission global economy by 2050.”<sup>3</sup>

Green hydrogen could provide up to 24% of our energy needs by 2050, helping to cut emissions by around a third. In doing so, the transition to green hydrogen could provide \$11 trillion of infrastructure investment opportunities over the next 30 years and direct annual revenues of \$2.5 trillion.<sup>4</sup>

According to the latest Hydrogen Insights Updates from the Hydrogen Council in collaboration with McKinsey & Company<sup>5</sup>, the deployment of hydrogen projects has seen significant momentum as the technology is being considered a major factor in the clean energy transition. In that regard, and as of February 2021, over 131 large-scale Hydrogen projects have been announced, bringing the current project pipeline to 359 with investment along the value chain coming to an estimated \$500 billion through 2030,

To date, ninety countries, comprising 80% of the world’s GDP, now have commitments to meet net-zero emissions in the coming decades, and more than 30 countries have hydrogen-growth strategies. Favourable government commitments to fostering hydrogen innovation combined with concerns over greenhouse gas emissions are expected to continue to drive the demand for hydrogen, specifically green hydrogen, forward.

## **SALIENT POINTS OF THE AGREEMENT BETWEEN HPQ AND EBH<sub>2</sub>:**

1. The transaction is subject to TSX Venture Exchange approvals.
2. **HPQ** will be granted by **EBH<sub>2</sub>** a perpetual world-wide license to sell products where EBH<sub>2</sub> generators are incorporated into all HPQ Technologies, if the EBH<sub>2</sub> generators are used exclusively to autonomously power HPQ Technology or HPQ Technologies. (“The HPQ-EBH<sub>2</sub> Bundle License”).
3. **HPQ** and **EBH<sub>2</sub>** agree to establish a new 50/50 joint enterprise (NEWCO) that will be responsible to market, sell and service EBH<sub>2</sub> systems and products in North America. NEWCO will be granted by EBH<sub>2</sub> a perpetual exclusive licence to market, sell and service EBH<sub>2</sub> systems and products in North America. (Canada, Mexico, and the United States of America). HPQ will set up NEWCO as a Canadian corporation, with both HPQ and EBH<sub>2</sub> having fifty percent (50%) shareholding.

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<sup>3</sup> <https://www.bofaml.com/en-us/content/esg-research/green-hydrogen-market-importance.html>

<sup>4</sup> <https://about.bnef.com/new-energy-outlook/>

<sup>5</sup> <https://hydrogencouncil.com/en/hydrogen-insights-updates-july2021/>

4. **OPTION TO ACQUIRE HPQ EQUITY STAKE IN NEWCO.** HPQ agrees that starting 5 years, but not exceeding 10 years, from the date of the receipt of the first Commercial shipment of EBH<sub>2</sub> systems ready for sales in North America by NEWCO, EBH<sub>2</sub> can at any time and at its sole discretion, elect to buy HPQ equity stake in NEWCO by exchanging HPQ Equity stake in NEWCO for a perpetual eight percent (8%) royalty, on the gross sales of NEWCO (“HPQ ROYALTY”), royalty that shall be paid monthly, the 15th day of each month for the gross sales made in the previous month.
5. **ACQUISITION COST.** HPQ agrees to pay EBH<sub>2</sub> the HPQ-EBH<sub>2</sub> Bundle License in accordance with the payment schedule and terms set forth below:
  - a. HPQ will make a cash payment to EBH<sub>2</sub> of Five Hundred Thousand US dollars (US\$ 500,000) (“The Cash Component of the transaction”),
  - b. HPQ will issue to EBH<sub>2</sub> of 10,000,000 units (“Unit”) at a price of C\$0.70 Per Unit. (“The Equity Component of the transaction”). Each Unit is comprised of one (1) common share and one (1) common share purchase warrant (“Warrant”) of HPQ. Each Warrant will entitle EBH<sub>2</sub> to purchase one common share of the capital stock of HPQ at an exercise price of \$ 0.75 for a period of 36 months from the date of closing of the Transaction. Each common share issued pursuant to the Units will have a mandatory four (4) month and one (1) day holding period from the date of its issuance. The Equity Component of the transaction is subject to TSX Venture Exchange and to standard regulatory approvals.
6. **SCHEDULE OF PAYMENTS.** EBH<sub>2</sub> agrees that both the Cash Component of the transaction and the Equity Component of the transaction will be paid after an independent third-party has validated that the EBH<sub>2</sub> process works and can be scaled up to meet the energy requirement of HPQ Technologies, based on the following milestones:
  - a. An independent third-party, chosen by the Parties, will be mandated to confirm that the EBH<sub>2</sub> travel demonstration module can generate 1,000 Watts per hour (1 Kw per hour), 24 Kw per day, 168 Kw or 0.17 Mw of energy over 7 days from 1 litre of water (H<sub>2</sub>O). Upon receipt of confirmation that the production and other milestones has been met, the Cash Component of the transaction will be paid to EBH<sub>2</sub> and 5,000,000 units of the Equity Component of the transaction will also be issued to EBH<sub>2</sub>.
  - b. An independent third-party, chosen by the Parties will be mandated to confirm that the EBH<sub>2</sub> system can be scaled up to meet the energy requirement of HPQ Technology. Upon receipt of a confirmation that the production and other agreed milestones have been met, 4,000,000 units of the Equity Component of the transaction will also be issued to EBH<sub>2</sub>.
  - c. Upon a successful demonstration that a EBH<sub>2</sub> system can produce the energy required to power up HPQ PUREVAP™ QRR pilot plant, the remaining 1,000,000 units of the Equity Component of the transaction will be issued to EBH<sub>2</sub>.

#### **About EBH<sub>2</sub> Systems SA.**

**EBH<sub>2</sub> Systems SA** is a Swiss company located in Lausanne area which is working on Hydrogen solutions that will be Powering a Healthier future. Together with a researcher that has dedicated his life to develop green Hydrogen technologies, **EBH<sub>2</sub>** has found the solution to produce Hydrogen from virtually any water source including salt water. **EBH<sub>2</sub>** is scalable with no limits. It can power a small domestic generator up to ships, factories, buildings, cryptocurrency mines with high energy consumption and even cities. **EBH<sub>2</sub>** is one of the solutions to reduce more than 15% of the emissions for 2021. For more information, please visit [EBH<sub>2</sub> web site](#).

## About HPQ Silicon Resources

[HPQ Silicon Resources Inc. \(TSX-V: HPQ\)](#) is a Quebec-based innovative silicon solutions company that offers innovative silica (SiO<sub>2</sub>), silicon (Si) based solutions and is developing a unique portfolio of high value-added silicon (Si) products sought after by battery and electric vehicle manufacturers.

Silicon (Si), also known as silicon metal, is one of today's key strategic materials needed for the decarbonization of the economy and the Renewable Energy Revolution ("RER"). However, silicon does not exist in its pure state and must be extracted from quartz (SiO<sub>2</sub>) in what has historically been a capital and energy-intensive process.

With [PyroGenesis Canada Inc. \(TSX: PYR\) \(NASDAQ: PYR\)](#), HPQ is developing:

1. the **PUREVAP™ "Quartz Reduction Reactors" (QRR)**, an innovative process (patent pending), which will permit the one-step transformation of quartz (SiO<sub>2</sub>) into high purity silicon (Si) at reduced costs, energy input, and carbon footprint that will propagate its considerable renewable energy potential.
2. Through its 100% owned subsidiary, HPQ NANO Silicon Powders Inc., the **PUREVAP™ Nano Silicon Reactor (NSiR)** is a new proprietary process that can use material produced by the QRR as feedstock, to make a wide range of nano/micro spherical powders of different sizes and nanowires.
3. Through its second 100% owned subsidiary, HPQ Silica POLVERE Inc., HPQ is developing a new plasma-based process that will allow 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.

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

### Disclaimers:

The Corporation's interest in developing the PUREVAP™ QRR and any projected capital or operating cost savings associated with its development should not be construed as being related to the establishing the economic viability or technical feasibility of any of the Company's Quartz Projects.

This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Company's current expectation and assumptions and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These forward-looking statements involve risks and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's ongoing filings with the security's regulatory authorities, which filings can be found at [www.sedar.com](http://www.sedar.com). Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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- 30 -

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