HPQ NANO REACHES MAJOR MILESTONES WITH GEN 1 NANO SILICON REACTOR OPERATIONAL

NEW ERA OF LOW-COST MANUFACTURING OF NANO SILICON MATERIALS ABOUT TO COMMENCE

Montreal, QC, Dec 17, 2020 – Innovative silicon solutions provider HPQ Silicon Resources Inc. ("HPQ" or "the Company") (TSX-V: HPQ; FWB: UGE; Other OTC : URAGF), through its wholly – owned subsidiary, HPQ Nano Silicon Powders inc ("HPQ NANO"), is pleased to announce today that technology provider PyroGenesis Canada Inc. (TSX: PYR) has informed HPQ NANO that phase 1 of the *PUREVAP™ Nano Silicon Reactor ("NSiR")* development program has reached the commissioning stage, with the Gen1 *PUREVAP™ NSiR* now ready to start producing Silicon nano materials.

"The announcement today is indeed a major milestone and we are proud at having played a key role in this accomplishment. We are all extremely excited to have the Nano Reactor up and running, on schedule and on budget, particularly during these trying times." said P. Peter Pascali CEO and Chairman of PyroGenesis Canada Inc. *"The next major step is to get qualified samples into end user's hands which we are pushing to do before year-end, or shortly afterwards. The more we progress with the Nano reactor the more it seems to us to be a real game changer. It may very well become the gold standard for making nano Si for the battery industry. Success to date bodes well for the future, and today's announcement is one major step in that direction".*

PUREVAP™ NSiR LOW-COST SPHERICAL SILICON MATERIALS: A GAME CHANGING LEAP

Despite strong research and massive investment in Silicon material for batteries, current manufacturing processes are simply not scalable or commercially viable. With a capability of producing tailor made silicon materials within a wide range (from < 0.20 μm up to 5 μm), the *PUREVAP™ NSiR* represents a game changing leap forward in resolving the issues of commercial viability and scalability.

With the Gen1 NSiR now operational, HPQ NANO will be uniquely positioned to be able to offer industry participants a wide spectrum of products for testing, while we advance phase 2 of the *PUREVAP™ NSiR* development program towards the confirmation of the scalability of the process in order to increase our capacity to meet the anticipated emerging demands from battery, EV manufactures and other markets looking for nano silicon materials.

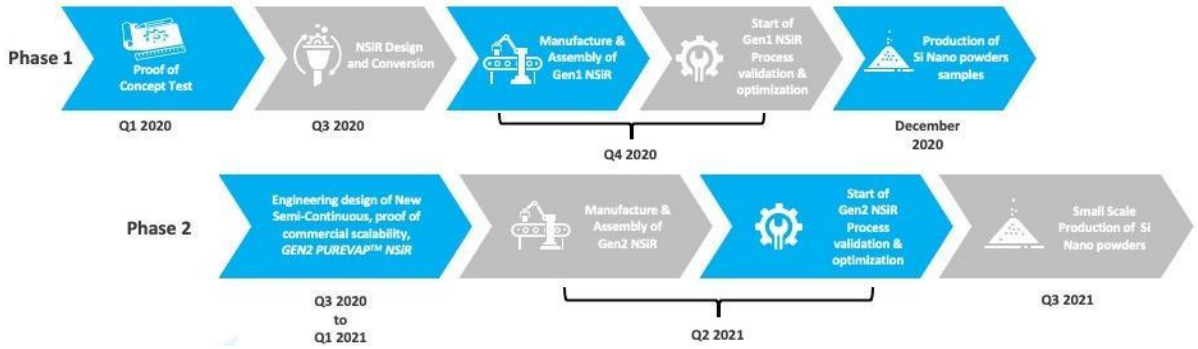

Image 1) HPQ NANO Phase 1 and Phase 2 project timelines

"First, let me thank the PyroGenesis team for getting the Gen1 PUREVAP™ NSiR operational, on time and on budget, during these challenging times. This is a major and critical milestone for us. Having the capability to produce Silicon nanopowders and nanowires will allow HPQ to be at the forefront of Nano Silicon for batteries as we continue working on scaling up the capacities of our next generation of PUREVAP™ NSiR reactors. This is another demonstration of the depth and flexibility of HPQ's R&D consortium as we strive to produce products for renewable energy storage participants and electric vehicle manufacturers, who are searching for cost effective ways of increasing the Silicon contained in their batteries.," said Bernard Tourillon, President and CEO HPQ Silicon. *"Silicon's potential to meet energy storage demand is undeniable, generating massive investments, and serious industry interest. We are very confident that demand for the Silicon materials we will produce, with our low-cost scalable processes, will be in high demand by batteries and EV manufacturers in this renewable energy revolution."*

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a leader in the design, development, manufacture and commercialization of advanced plasma processes and products. The Company provides its engineering and manufacturing expertise and its turnkey process equipment packages to customers in the defense, metallurgical, mining, advanced materials (including 3D printing), and environmental industries. With a team of experienced engineers, scientists and technicians working out of its Montreal office and its 3,800 m2 manufacturing facility, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The Company's core competencies allow PyroGenesis to provide innovative plasma torches, plasma waste processes, high-temperature metallurgical processes, and engineering services to the global marketplace. PyroGenesis' operations are ISO 9001:2015 and AS9100D certified. For more information, please visit www.pyrogenesis.com.

About HPQ Silicon

HPQ Silicon Resources Inc. (TSX-V: HPQ) is a Canadian Innovative Silicon Solutions Provider.

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").

Silicon is the most abundant element in earth's crust but does not exist in its pure state and must be extracted from quartz (SiO_2) in what has historically been a capital and energy intensive process. HPQ is building a portfolio of silicon–based products using innovative scalable processes. The target objective is to produce high value speciality Silicon products using technologies that will reduce energy consumption, GHG's, and carbon footprint.

Working with PyroGenesis Canada Inc. (TSX: PYR), a high-tech company that designs, develops, manufactures and commercializes plasma - based processes, HPQ is developing:

- The ***PUREVAP™ "Quartz Reduction Reactors" (QRR)***, an innovative process (patent pending), which will permit the one step transformation of quartz (SiO_2) into high purity silicon (Si) at reduced costs, energy input, and carbon footprint that will propagate its considerable renewable energy potential.

> HPQ believes it will become the lowest cost (Capex and Opex) producer of silicon (Si) and high purity silicon metal (3N – 4N Si).

- Through its 100% owned subsidiary HPQ NANO Silicon Powders Inc, the ***PUREVAP™ Nano Silicon Reactor (NSiR)***, a new proprietary process that can use different purities of silicon (Si) as feedstock, to make spherical silicon nanopowders and nanowires.

  > HPQ believes it can also become the lowest cost manufacturer of spherical Si nanopowders and silicon-based composites needed by manufacturers of next-generation lithium-ion batteries.

  > During the coming months, spherical Si nanopowders and nanowires silicon-based composite samples requested by industry participants and research institutions' will be produced using *PUREVAP™ SiNR*.

HPQ is also working with industry leader Apollon Solar of France to:

- Use their patented process and develop a capability to produce commercially porous silicon (Si) wafers and porous silicon (Si) powders.

  > The collaboration will allow HPQ to become the lowest cost producer of porous silicon wafers for all-solid -state batteries and porous silicon powders for Li-ion batteries.

  > Develop the hydrogen generation potential of Silicon nanopowders for use with the Gennao™ system.

  > Commercialize, exclusively in Canada, and non-exclusive in the U.S.A., the Gennao™ H_2 system and the chemical powders required for the hydrolysis production of Hydrogen ("H2").

This News Release is available on the company's CEO Verified Discussion Forum, a moderated social media platform that enables civilized discussion and Q&A between Management and Shareholders.

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 on-going filings with the security's regulatory authorities, which filings can be found at www.sedar.com. Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws.

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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