

PyroGenesis Canada Inc.

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PyroGenesis and HPQ-Silicon Resources ponder JV for silicon powders

PyroGenesis Canada Inc (CSE:PYR) (OCTMKTS:PYRNF) said Monday that it and HPQ-Silicon Resources Inc (CSE:HPQ) are actively evaluating a joint venture to manufacture nanoscale structure silicon (Si) powders for next-generation lithium-ion Si batteries.

While Nanoscale Structure Silicon Powders improve Lithium-ion battery performance, high-performance Silicon anodes are not presently commercially feasible due to high manufacturing costs.

PyroGenesis said two major issues have been identified as major impediments to commercial feasibility. The cost of the high purity Silicon feed material needed and the cost of transforming Silicon into Nanoscale Structure Silicon Powders for Li-ion batteries.

READ: PyroGenesis partner HPQ Silicon Resources enters into talks with battery manufacturer for silicon wafers technology

However, combining the HPQ PUREVAP Quartz Reduction Reactor technology with PyroGenesis Plasma Atomization knowhow to manufacture Nanoscale Structure Silicon (Si) powders, could potentially resolve these two issues and lead the way to full commercialization of Nanoscale Structure Silicon Powders.

If successful, PyroGenesis said that should subsequently lead to their wide-scale adoption in the battery space, and HPQ and PyroGenesis would then be well-positioned to assume a market leadership position.

Presently, Silicon powders are used in a blended form with graphite but its content is typically less than 5 wt% (weight percent), which reflects the infancy of Si anode technology and explains the limited performance improvement achieved to date. Even at these levels, this is estimated to represent an addressable market of US\$1 billion by 2022 expanding at a CAGR of 38.9% between 2019 and 2024.

The addressable market growth could be exponentially higher than projected as research suggests that replacing graphite materials with Nanoscale Structure Silicon (Si) powders in next-generation Li-ion Batteries promises an almost tenfold increase in the specific capacity of the anode, inducing a 20-40% gain in the energy density of Li-ion batteries.

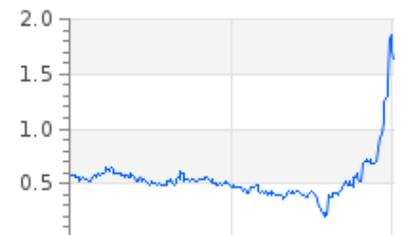
"We are taken by the potential of this joint venture as it checks all of the boxes we consider before evaluating a new business line: It relates to our current activities, the market although niche is potentially massive, our expertise would be game-changing, and the risk is low," said PyroGenesis CEO Peter Pascali.

"We are equally excited about the market drivers for this product. The potential from the battery and energy storage markets alone is estimated, on first review, to be in the multi-billions of dollars. I look forward to evaluating this opportunity more closely."

Price: 1.62

Market Cap: \$226.67 m

1 Year Share Price Graph



June 2019 December 2019 June 2020

Share Information

Code: PYR

Listing: TSX-V

52 week High Low
2.02 0.19

Sector: Manufacturing & engineering

Website: www.pyrogenesis.com

Company Synopsis:

PyroGenesis Canada Inc. (TSX-V: PYR • OTCQB: PYRNF • FRA: 8PY), a high-tech company, is the world leader in the design, manufacture and commercialization of advanced plasma processes.

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