

# Hertz Energy Expediting Hard Rock Lithium Technology and Announces Partnership with Lithium Consultants Australasia

March 11, 2024 9:16 AM EDT | Source: Hertz Energy Inc. (/company/9656/Hertz-Energy-Inc.)

Vancouver, British Columbia--(Newsfile Corp. - March 11, 2024) - Hertz Energy Inc. (CSE: HZ) (OTCQB: HZLIF) (FSE: QE2) (the "Company") is pleased to announce that it has entered into a consulting agreement with Lithium Consultants Australasia (LCA) (<https://api.newsfilecorp.com/redirect/W0VXrH1vwB>) to advance the development of its hard rock lithium extraction process optimization technology being conducted at Penn State University (PSU) as well as advance the Company's commercialization of the technology.

Lithium Consultants Australasia (LCA) (<https://api.newsfilecorp.com/redirect/q8Nq3sVZoo>) is based in Perth, Australia and assists companies to advance their lithium projects by conducting test work on their behalf which provides the necessary data required to design pilot and commercial scale plants. LCA has specialized knowledge and expertise in the extraction of lithium, along with a commitment to providing innovative solutions and exceptional support, to successfully develop rare mineral resources. Their services include test work design, flowsheet development, process modelling, lithium market intelligence, commercial plant design and development and feasibility studies.

Hertz has partnered with LCA to work with PSU through their remaining optimization trials to ensure all work is performed with a near term commercialization goal. LCA will develop overall flowsheet, high-level operating cost estimates, conduct a validation study and run a pilot plant scale-up program.

The Company's technology comprises a patent-pending process for the extraction of lithium from alpha-spodumene. Lithium is one of the critical elements with widespread applications in next-generation technologies, including energy storage, electric mobility and cordless devices.<sup>[1]</sup> Due to its unique applications, lithium cannot be substituted in most applications; therefore, a steady increase of 8-11% in annual demand is anticipated.<sup>[2]</sup> Meeting a rising demand for lithium requires prospecting and processing all viable resources. Two primary sources of lithium are hard rock ores (e.g., spodumene mineral) and brine, with clay sources considered secondary. Spodumene mineral is the major source of high-purity lithium; however, current technologies do not allow leaching of lithium from alpha-spodumene, and therefore most of the methods of lithium extraction from spodumene are focused on modifying the crystal structure of concentrated spodumene mineral into beta-spodumene using conventional heating (roasting) at 950-1100 degrees Celsius. However, such high-temperature roasting processes are very energy intensive and have been the bottleneck of the economic extraction of lithium from ores. Thus, there is a need for more energy-efficient and environmentally friendly methods for a high-yield extraction of lithium. The Technology is designed to satisfy these needs<sup>[3].[4]</sup>.

The Company's technology begins with taking spodumene concentrate, introducing sodium hydroxide, and then proceeding with conventional or microwave roasting which transforms the alpha-spodumene into a soluble phase and is followed by a water leaching process to recover lithium.

More recently, the team at PSU has conducted a multi-step optimization phase on the current extraction process. To date, they have concluded optimization on the stage 1 roasting and water leaching process. The efforts of the optimization work have resulted in advancement of the alpha-spodumene extraction process running a two-stage roasting and leaching method with Li recovery now reaching over 99%. Updates to the patent applications have been filed with the proper authorities to encompass the breakthrough achieved by Mohammad Rezaee and his team at Penn State.

Furthermore, Hertz is continuing in-depth discussions with a major international mining conglomerate for collaboration on the development of the hard rock lithium extraction technology in partnership with Penn State University and LCA. This potential agreement will allow for funding and expertise from the third-party towards the validation study and pilot plant program as well as additional expertise to aid in the commercialization of the extraction technology."With hard rock lithium becoming a focus for lithium supply and many new hard rock lithium discoveries occurring around the world, including the world class Patriot Battery Metals' Corvette discovery, in Quebec, the need for updated and efficient extraction technology is urgent. I commend the great work being conducted by our teams at Hertz and Penn State and the recent advancement of the IP being generated. We are excited to have Grant Harman and his team at LCA run the commercialization efforts for our extraction technology," states Kal Malhi, CEO & Director of Hertz Energy. Mr. Malhi continues, "They are top tier in the lithium extraction world and we have all the confidence in their ability to guide the remaining optimization efforts and bring the technology towards commercialization in an expedited fashion."

#### **About Hertz Energy Inc.**

Hertz Energy is a British Columbia based junior exploration company primarily engaged in the acquisition and exploration of mineral properties. The Company recently entered into the Definitive Agreement to acquire the Cominco Uranium Property located in Bathurst Inlet, Nunavut, Canada. Hertz rebrand to "Hertz Energy" to better reflect the Company's commitment to critical mineral exploration in support of the global green energy transition. The Company's lithium exploration projects include the Lucky Mica Lithium Project, the ACDC Lithium Project and the Patriota Lithium Projection. The Lucky Mica Project is 939 hectares located within the Arizona Pegmatite Belt in the Maricopa County of Arizona, USA. The ACDC Project is 26,500 hectares located in the renowned James Bay Lithium District in Quebec, Canada, just 26kms southeast of the Covette Lithium Project owned by Patriot Battery Metals and is contiguous to Rio Tinto's Kaanaayaa project claims. The Patriota Lithium Project is 2,963 hectares located within the Eastern Brazilian Pegmatite Province in Minas Gerais, Brazil and host to similar geology as Sigma's "Green Lithium Mine". The Company also holds a long-term, exclusive license for a patent-pending process for extracting lithium directly from lithium-bearing materials, including but not limited to alpha-spodumene and other hard rock hosted minerals. Such process was invented by researchers affiliated with Penn State and is co-owned by the Penn State Research Foundation and North Carolina State University.

#### **About Penn State University, College of Earth and Mineral Sciences**

For more than a century, Penn State's College of Earth and Mineral Sciences has been a beacon of intellectual leadership on issues of utmost importance to the welfare of the Commonwealth, the nation, and beyond. We are a vibrant, inclusive community driven by curiosity to unlock how Earth's systems, energy, and materials interact with one another and society. With our top-ranked programs; five academic departments; and more than 40 majors, minors, and certificates, we provide a comprehensive, high-quality education at the forefront of both innovative teaching and path-breaking research focused on meeting the needs of our global society.

The mission of the college is to advance knowledge, talent and leadership to elucidate Earth processes and history, harness and sustain natural resources and materials, and develop novel solutions to major challenges in energy, environment and wellbeing. We continue a strong tradition of building deep disciplinary expertise along with interdisciplinary teams, focusing on the interfaces of the natural science, social science, and engineering disciplines, where answers to the most pressing problems facing society await discovery.

For further information, please contact Mr. Kal Malhi or view the Company's filings at [www.sedarplus.ca](http://www.sedarplus.ca) (<https://api.newsfilecorp.com/redirect/K8pEJs00Xx>).

#### **On Behalf of the Board of Directors**

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1 Meshram, P., Pandey, B. D., & Mankhand, T R. (2014) "Extraction of lithium from primary and secondary sources by pre-treatment, leaching and separation: A comprehensive review. Hydrometallurgy," 150, 192-208.; Martin, G., Rentsch, L., Hoeck, M., & Bertau, M (2017). "Lithium market research-global supply, future demand and price development." Energy Storage Materials, 6, 171-179.

2 Baylis, R, 2013, January. "Evaluating and forecasting the lithium market from a value perspective." In Roskill presentation, 5 the Lithium Supply and Markets Conference, Las Vegas (pp. 29-31); ENTR, E (2014). "Report on Critical Raw Materials for the EU Ares" (2015), 1819503.

<sup>3</sup> Shihua, H., Daulet, S., Pan, J., Vaziri Hassas, B., Akbari, H., Mensah-Biney, R. Rezaee, M.\* , (2022). Direct Extraction of lithium from  $\alpha$ -spodumene by salt roasting-leaching process. ACS Sustainable Chemistry and Engineering.

4 Rezaee, M., Shihua, H., Daulet, S., Vaziri Hassas, B., Slawewski, T. M., Agrawal, D., Akbari, H., Mensah-Biney, R. (2022). Microwave-assisted calcination of spodumene for efficient, low-cost, and environmentally friendly extraction of lithium. Powder Technology, 397, 116992.



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