

TORONTO, ONTARIO--(Marketwired - Sep 9, 2015) - [Energizer Resources Inc.](#) (TSX:EGZ) (OTCQX:ENZR) (WKN:A1CXW3) ("Energizer" or the "Company") announces that it has received confirmation that independent third parties have successfully manufactured spherical graphite from the Company's Molo flake graphite concentrate and that initial test results indicate it has met all specifications and quality requirements for battery anode material production.

Testing was performed independently by both a leading Japanese manufacturer of battery anode material and a leading European supplier of spherical graphite for electric vehicles (EVs), both of which Energizer is under a non-disclosure and confidentially agreement with. The purpose of these tests being conducted was to ascertain the potential for Energizer's Molo deposit to be an alternative and sustainable natural source of spherical graphite concentrate for the purpose of supplying battery anode material for the EV market.

Energizer's President and CEO Craig Scherba, P. Geo. stated, "We are pleased to have highly reputable, third-party validation that our Molo concentrate can be manufactured into high-quality spherical graphite for electrical vehicles. This positions Energizer well for this burgeoning market."

Testing in both instances consisted of two separate 20 kilogram samples of Molo concentrate, ranging from -200 mesh (small and fine flake) to +32 mesh (extra large and jumbo flake), being purified with standard methods and spherically cut to specifications for lithium-ion batteries used by a major automotive brand. Spheroidization of the Molo concentrate was done using two different rounding steps including testing with shorter and longer rounding times. Surface area, milling behavior, tapping density, ash content electrochemical performance (first cycle efficiency and third cycle capacities) and impurities on a parts per million scale were compared internally by the testing companies with ICP analysis against their respective commercial reference standard. It was confirmed to Energizer that the Molo concentrate showed very good potential compared to their respective current suppliers.

Next Steps

Based on these results, both parties have confirmed Energizer now qualifies to move to the next stage in product analysis, which will include additional bulk-sample testing stages down each of the company's respective customer supply chains. Energizer is currently in discussions with each party regarding expected timelines and logistics regarding these additional stages, including discussions on potential off-take agreements.

Energizer is expecting additional results on its Molo concentrate from another well-established and reputable independent source that specializes in producing battery-grade spherical graphite specifically for lithium-ion battery applications and looks forward to providing test results when available.

Lithium Ion Batteries

Graphite is the anode (negative side of the battery) material of choice for all lead-acid, alkaline and lithium-ion batteries used in handheld mobile technology, electric vehicles and stationary energy storage systems.

After refractories, the battery market represents the 2nd largest market for natural flake graphite, representing approximately 20% of the approximate 400,000 tonnes of natural flake graphite that is consumed globally each year. It also represents the fastest growing sector for natural graphite with demand forecasted to grow at approximately 10% per annum based on demand forecasts of lithium-ion batteries, which is being driven mainly by mobile devices, tablets, power tools, consumer electronics and electric vehicles. (source: Avicenne Battery Report)

Lithium-ion batteries for EVs currently make up a relatively small percentage of lithium-ion battery sales by megawatt-hours worldwide. However, with the advent of electric vehicles achieving greater (and potentially mass) penetration, lithium-ion batteries are poised to undergo significant growth and have the potential to be the largest off-take market for graphite by 2020. (source: Benchmark Mineral Intelligence).

Recent industry reports have indicated that EVs will not be niche. Deutsche Bank predicts that EVs are at the tipping point and will bring an "unprecedented technology change to the sector by 2020". Deutsche Bank further predicts that EVs will reach price parity with diesel cars within 5 years, and parity with gasoline cars by the early 2020s.

With success of Tesla undisputedly proving to the automotive world that an electric car can outperform a premium gasoline-powered vehicle in both performance and safety ratings, several global automotive manufacturers are now accelerating their efforts to produce more electric-powered vehicles in their line up. With major advances in battery technology allowing faster charging times and vastly improved driving range, continuing rollouts of widespread charging networks, coupled with governments and corporations aspiring to improve both environmental and fuel economy standards in vehicles, consumers are now fostering greater confidence in electric-powered transportation.

Quick Facts

- There is approximately 10 times more graphite in a lithium-ion battery than there is lithium.
- Approximately 45,000 tonnes per year of spherical graphite is consumed globally in the manufacturing of anodes for lithium-ion batteries alone, with approximately 30,000 tonnes being natural. (source: Avicenne Battery Report)
- The main substitute for natural graphite is synthetic graphite, which is made from a by-product of petroleum refining, is a very energy intensive and expensive process that has a larger environmental impact than its natural counterpart.
- Today, lithium-ion batteries for EVs are a mixture of both natural and synthetic graphite, with the synthetic graphite being as much as double the cost to produce as compared to natural flake graphite. (source: Industrial Minerals)
- Uncoated spherical graphite ranges between \$2,500-\$3,000/tonne, while coated material hovers around \$7,000-10,000/tonne. For synthetic spherical graphite, the prices can be as much as \$15,000-\$20,000/tonne. (source: Industrial Minerals price database)
- The amount of natural graphite in an average hybrid EV is 10 kilograms or 22 pounds; an average EV is 50 kilograms or 110 pounds; a Tesla Model S has 80 kilograms or 170 pounds. (source: Toyota)
- The Tesla Gigafactory, if producing at capacity, would consume approximately 40,000 tonnes of spherical graphite by the year 2020. This represents the entire current global output of spherical graphite for lithium-ion batteries. (source: Benchmark Mineral Intelligence)
- The process of "rounding" flake graphite into spherical graphite is inefficient. It takes approximately 2 to 2.5 tonnes of natural flake graphite to produce 1 tonne of battery-grade spherical graphite.
- Natural graphite performs better than synthetic in increasing the energy density (i.e. range) of a lithium battery for EV applications. A battery made with 100% natural would outperform an all-synthetic counterpart. (source: Toyota)
- Synthetic graphite is used because of its consistent high quality and purity, security of supply and can be easily engineered to the exact requirements needed for the battery chemistry of the anode.
- Over the last decade, use of natural graphite has been steadily increasing in lithium-ion batteries. In 2013, a lithium-ion graphite anode consisted on average of 64% natural and 26% synthetic. The weighting of natural graphite versus synthetic is predicted to rise even further. In 2003, the split was 75%/25% in favour of synthetic. (source: Avicenne Battery Report)
- 2015 is set to be the strongest year for demand of spherical graphite on record, with a 27% compounded growth rate since 2009. (source: Benchmark Mineral Intelligence)

Mr. Craig Scherba, P.Geo., President and CEO is the qualified person who reviewed and approved the technical information provided in this press release.

About Energizer Resources

Energizer Resources is a mineral exploration and mine development company based in Toronto, Canada, that is developing its 100%-owned, flagship Molo Graphite Project in southern Madagascar.

Safe Harbour: This press release contains statements that may constitute "forward-looking statements" within the meaning of applicable Canadian and United States securities legislation. Readers are cautioned not to place undue reliance on such forward-looking statements. Forward-looking statements are related to future test results and product analysis, the use of the Molo concentrate, further discussions regarding potential off take agreements and the lithium ion market in general are based on current expectations, estimates and assumptions that involve a number of risks, which could cause actual results to vary and in some instances to differ materially from those anticipated by the Company and described in the forward-looking statements contained in this press release. No assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur or, if any of them do so, what benefits the Company will derive there from. The forward-looking statements contained in this news release are made as at the date of this news release and the Company does not undertake any obligation to update publicly or to revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by applicable securities laws.

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