

Hallgarten Initiates Coverage of Edison Lithium: Pivoting to Sodium-Ion Battery Technology

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[Edison Lithium Corp.](#) (TSXV: EDDY | OTCQB: EDDYF), a forward-looking player in the evolving battery metals market, is pivoting towards Sodium-Ion battery technology, as detailed in a comprehensive [report](#) by [Hallgarten + Company](#). This strategic shift comes amidst a surge in demand for Electric Vehicles (EVs) and a heightened focus on sustainable and efficient energy storage solutions.

In 2021, Edison Lithium expanded into the Lithium salares in Argentina, a move aligning with the country's emergence as a major lithium producer, often referred to as the "Saudi Arabia of Lithium." This venture proved lucrative when Edison sold 80% of its Lithium package for triple the purchase price, while retaining key assets. The sale aligns with the company's strategic pivot towards sodium-ion technology and the broader market trend of seeking alternatives to lithium-ion formulations, driven by concerns over the environmental impact and long-term viability of lithium-based batteries.

[The report](#) emphasizes the increasing interest in sodium-ion batteries, partly due to their potential for reducing the carbon footprint compared to lithium-ion batteries. Edison Lithium's recent endeavors include [acquiring](#) concessions for sodium sulphate in Saskatchewan, Canada, through a deal with Globex Mining Enterprises Inc. This acquisition positions Edison at the forefront of the sodium-ion battery supply chain.

Sodium-ion batteries, while not new, have gained renewed

interest due to the rising costs and environmental concerns associated with lithium-ion batteries. These batteries use sodium ions as charge carriers and offer advantages like lower production costs and abundance of sodium, especially from brines. However, challenges such as lower energy density and limited charge-discharge cycles hinder their mass adoption.

Major industry players like Northvolt AB, Tesla Inc. (NASDAQ: TSLA), China's BYD Co. Ltd. (OTC: BYDDF), and startups like Peak Energy are exploring sodium-ion technologies, primarily for stationary applications. Northvolt, for instance, has developed a sodium-ion cell with energy density comparable to lithium iron phosphate cells, indicating potential for broader applications in the future.

The report highlights the geological and historical context of sodium sulphate mining in Saskatchewan, which dates back to 1918. The region's unique geology, featuring shallow hypersaline lakes and extensive sedimentary rock formations, has facilitated the accumulation of sodium sulphate deposits. These natural resources could play a pivotal role in Edison Lithium's pursuit of sodium-ion battery technology.

In summary, Edison Lithium's strategic shift towards sodium-ion battery technology represents a significant move in the evolving landscape of battery metals. This pivot not only aligns with global trends towards more sustainable energy solutions but also positions the company to capitalize on the abundant resources and growing market interest in sodium-ion technologies. The [Hallgarten + Company report](#) underscores Edison Lithium's proactive approach to adapting to changing market dynamics, ensuring its relevance and competitiveness in the burgeoning field of battery technology.

The Future of Energy Storage: Liquid-Metal Batteries and the Role of Antimony

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One of the standout attributes of the liquid-metal battery is its competitive edge over lithium-ion batteries. Not only is it more affordable, but its design simplicity, superior chemistry, and impressive durability make it particularly appealing. As Sadoway notes, the battery's non-flammable nature, resistance to capacity fade, and data suggesting an operational life of two decades retaining 95% of its capacity make it a formidable contender in the energy storage sector.

Don Bubar on Avalon's strategic approach to lithium production

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May 30, 2018 – “I have been running Avalon as a publicly traded company in this specialty metals and minerals space for over 20 years now and have seen quite an evolution in the space from when I first started with our lithium project where these were

basically little known, little appreciated and very poorly understood emerging commodities to where we are now where this is becoming quite an important subsector of the mineral industry, particularly with this whole evolution of the battery industry, energy storage technology, electric vehicles is creating this whole new demand that we never saw” starts Don Bubar, President, CEO and Director of [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQX: AVLNF), in a recent presentation at the 7th Annual InvestorIntel Summit – Buds, Batteries & Blockchain 2018.

Don Bubar: Believe it or not I have been running Avalon as a publicly traded company in this specialty metals and minerals space for over 20 years now actually and have seen quite an evolution in the space from when I first started with our lithium project where these were basically little known, little appreciated and very poorly understood emerging commodities to where we are now where this is becoming quite an important subsector of the mineral industry, particularly with this whole evolution of the battery industry, energy storage technology, electric vehicles is creating this whole new demand that we never saw. We could perhaps see coming in the distant future 20 years ago, but it is definitely upon us now. It has changed the game in some very dramatic ways. I think it is time that this subsector of the mineral industry really look at how it wants to brand itself because it is such a different sector of the mineral industry. We refer to these as commodities, but they are really not commodities in the traditional sense of the term. They do not trade on commodity exchanges. They are really highly refined chemical products that you need to produce for specific applications in the marketplace. There is a lot of new terminology starting to emerge on this. InvestorIntel uses technology metals. I hear energy metals being used quite a bit now; advanced materials; cleantech materials, that is one I kind

of like. I think we should all think about how we want to brand this industry to really differentiate it from the traditional mining industry, which is very, very different in terms of the risk factors and so that we do not confuse investors about what those risks in the business are. Let us face it most traditional mining investors just are commodity price speculators at the end of the day whereas in this industry it is more about the growth opportunities that these emerging commodities are presenting to investors. I say, now that I am hearing the blockchain developers and Bitcoin developers adopting the word mining, I say they can have it. They are the miners now. We are going to be cleantech producers, cleantech materials producers. There is your reminder on forward looking information. As I said, we have been around for 20 years now. I am a veteran of this technology metals space. As a result of that we have done many, many equity financings over the years. We have some 20,000 to 25,000 shareholders all over. Since the rare earth bubble burst there are few years ago we have seen a big turnover in our shareholder base, which has kind of depressed our valuation. On the other hand, we do have a very large audience out there that follows us around the world. Once we get some traction on one of these projects we are working on we should be able to really build on that solid base. Another thing that differentiates Avalon, in addition to the commodities we focus on over the years, is we embrace sustainability as core to our business...to access the complete presentation, [click here](#)

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VanadiumCorp CEO on mitigating the cost and eliminating carbon footprint of vanadium production

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March 27, 2018 – “We actually go directly into solution whereas every other producer creates an oxide that is impure and a very high cost to turn into an electrolyte. By the recovery of the co-products, iron and titanium, we are able to mitigate our cost. Our pure mandate and our goal was to eliminate the cost of producing vanadium and eliminate the carbon footprint, which we feel we have done.” states Adriaan Bakker, President and CEO of [VanadiumCorp Resource Inc.](#) (TSXV: VRB), in an interview with InvestorIntel’s Jeff Wareham.

Jeff Wareham: Adriaan you guys have just had some huge news. Let us start right with the good stuff.

Adriaan Bakker: Sure. We just filed our international patent on a technology that we have been developing and scaling; invented just over 15 months ago. We had a breakthrough in processing magnetite resources, which are the ultimate source for vanadium. Spent the last 10 years developing those resources to realize that existing processes are basically outdated, inefficient, low yield, high capex, and just not a favorable route to go down.

Jeff Wareham: A lot of our investors have heard about vanadium and that there is an opportunity in the market, but may not know a lot about it. What do we need to know about the vanadium market?

Adriaan Bakker: The biggest opportunity in the vanadium market is really in energy storage. We identified some key facts in the vanadium market. Number one being vanadium electrolyte that is required by batteries is a non-existent commodity. It is created by an offshoot of production from the steel industry from this inefficient type of production. There is just not enough vanadium available to go into energy storage.

Jeff Wareham: When we were talking a little bit before you said that, but you also said that you thought you guys were going to change that. Tell me why you feel that way.

Adriaan Bakker: Sure. The new process for us was addressing, not only industry challenges and a potential solution for our own resources, but really we found that it is a direct recovery for vanadium electrolyte in the form of vanadyl sulfate. We actually go directly into solution whereas every other producer creates an oxide that is impure and a very high cost to turn into an electrolyte. By the recovery of the coproducts, iron and titanium, we are able to mitigate our cost. Our pure mandate and our goal was to eliminate the cost of producing vanadium and eliminate the carbon footprint, which we feel we have done.

Jeff Wareham: In this market right now everybody is talking about battery metals and energy metals and so on. What kind of energy storage does vanadium help solve?

Adriaan Bakker: The energy storage technology is pure vanadium-based technology. You effectively have a battery technology that is already deemed to be the most sustainable form of energy storage because 80% of the battery is vanadium electrolyte. The positive and negative of the battery, the anolyte and the catholyte are both vanadium electrolyte so you do not have any cross contamination. You effectively have the ability to take an electrolyte that never degrades at the end of life of battery,

which is 30 to 50 years because there is no degradation, no cross contamination, out of that battery at the end. We are not talking about recycling. We are talking about infinite reuse of the electrolyte. You already have that sustainability factor. The ugly secret in the vanadium industry is that vanadium is produced with a similar carbon footprint to steel; 2 tons of carbon per 1 ton product. It is incredibly expensive and inefficient...to access the complete interview, [click here](#)

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