



Rockstone Research

September 20, 2019

Report #2

Battery Energy Storage System



Corporate Name Change & Management Realignment

REBORN AS ZINC8 ENERGY SOLUTIONS

Yesterday after market close, MGX Renewables Inc. announced to change its corporate name to Zinc8 Energy Solutions Inc. to better reflect its competitive edge in providing solutions to the entire energy sector, and not just renewables such as solar, wind, geothermal and hydro. Also announced yesterday, Ron Macdonald will be assuming the role of President and CEO of Zinc8 Energy Solutions effective immediately.

Apparently, the biggest transition in the history of the energy sector is underway, providing a multi-trillion-dollar opportunity for those who adapt the fastest and for those who unlock the full potential of renewable energy sources and transmission grids. Efficient technologies and innovative energy storage solutions are key to do so. Zinc8 Energy Solutions aims to be at the forefront of this development by introducing a market-leading, long-duration, low-cost zinc-air energy storage system.

With the increasing deployment of renewable energy and the increasing power requirements forecasted in the next years (e.g. from electric vehicles), transmission line upgrades are required on a massive scale globally. Until now, there has not existed a commercially ready energy storage solution that can economically service the needs of the new energy sector, first and foremost in

the energy transmission sector.

Now, Zinc8 Energy Solutions is coming into play with its unique and patented zinc-air battery technology to expand the capabilities of the grid without doing anything but installing its battery. Such a technological solution could save billions, if not trillions of dollars in required infrastructure upgrades over the next decades globally.

Zinc8 does not see itself competing in the under 4 hour market currently dominated by lithium-ion. Anything under 8 hours is not of interest but rather multi-megawatt-hours of storage, i.e. every sector that requires large amounts of +8 hours of energy storage is targeted by Zinc8, which is reflected in its new corporate name. The number 8 is known as the symbol of harmony and balance, representing abundance and power. Likewise, Zinc8 is on a mission to bring harmony to the grid by perfectly balancing energy supply and demand in an unprecedented fashion.

Moreover, the infinity symbol is like the shape of the sideways figure 8. Note that Zinc8 is eager to demonstrate that it can perform unlimited discharge and recharge cycles within its lifetime as well as deliver both high-power and long-duration energy services with no capacity fade over time, which features could set Zinc8 apart from other battery technologies, including lithium-ion.

Company Details

MGX Renewables Inc.

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Shares Issued & Outstanding: 47,123,529

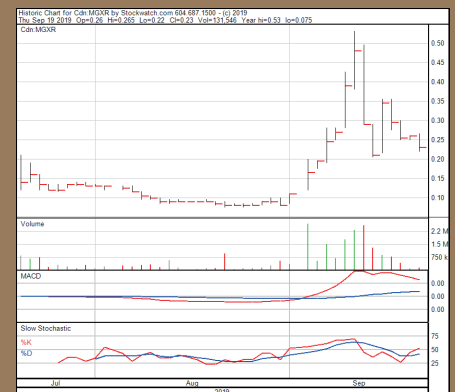


Chart Canada (CSE)

Canadian Symbol (CSE): MGXR

Current Price: \$0.23 CAD (09/19/2019)

Market Capitalization: \$11 Million CAD



Chart Germany (Frankfurt)

German Symbol / WKN: 0E9 / A2PNN3

Current Price: €\$0.161 EUR (09/19/2019)

Market Capitalization: €8 Million EUR



When looking at the renewable energy and clean technology research universe (e.g. the market valuation database from Raymond James Financial Inc.), you will notice that most of these stocks are performing exceedingly well and enjoy high valuations. Most interestingly, there are hardly any pure play battery / energy storage companies publicly traded in North America.

Are you ready to participate and prosper from the biggest transition of our modern-day energy systems? Zinc8 is. Take a look at their [Corporate Presentation](#) and Rockstone's [Initiating Coverage](#) for more information.

Compellingly, the company has established an experienced and well-connected [team](#) fully dedicated to enter the energy storage market as fast as possible.

With respect to the new appointment of Ron MacDonald as President and CEO, here is a brief overview of some of the experience he brings to Zinc8 Energy Solutions:

Mr. MacDonald has over 35 years of both public and private sector experience, ranging from international roles within the Parliament of Canada to serving on the boards of numerous publicly listed resource companies.

In recent years, Ron MacDonald has served as President of NRStor Remote Communities and Mines, a Canadian company based in Toronto focused on partnering with off-grid Indigenous communities and mines to develop renewable energy and energy storage projects. This led to two projects currently being developed in northern British Columbia and Nunavut. Mr. MacDonald was the Executive Chairman and Director of American Vanadium Corp (Vanadium supply chain & CellCube Energy Storage System) and he was Executive Chairman of Critical Elements Corp (lithium). Ron has also been a contributor to the EU Commission Framework 7 policy paper on "Scarcity of Strategic Minerals" and a presenter at conferences throughout the United

Contents

Focused on the electricity system, our New Energy Outlook (NEO) combines the expertise of over 65 market and technology specialists in 12 countries to provide a unique view of how the market will evolve.



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Global results

Cheap renewable energy and batteries fundamentally reshape the electricity system.

We move from two-thirds fossil fuels in 2018 to two-thirds zero-carbon energy by 2050. For wind and solar that's "50-by-50" - with these technologies supplying almost 50% of world electricity by 2050, ending the era of fossil fuel dominance in the power sector.

Solar sees the most growth, rising from 2% of the world electricity generation today, to 22% in 2050.

We expect around 330kW in every 1MW of that PV to be deployed behind-the-meter by households and business - accounting for 5% of world electricity in 2050. Wind generates 26% of the world's electricity in 2050, compared with 5% today.

Hydro sees very modest growth, and nuclear stays practically flat.

Hydro is constrained by resource availability and nuclear by a combination of high costs and a lack of flexibility to complement cheap renewables.

Batteries, peakers and dynamic demand help wind and solar reach more than 80% penetration in some markets.

Around 359GW of batteries are added to the power system to help shift excess generation to times when the wind is not blowing and sun is not shining. Demand-side flexibility also helps better integrate variable renewable energy. This includes dynamic EV charging, where vehicles are plugged in when idle, drawing a charge determined by time-of-use tariffs and demand response.

BloombergNEF

Investments

We see \$13.3 trillion invested in new power generation assets over the 32 years to 2050.

Of this, 77% goes to renewables. Wind attracts \$5.3 trillion and solar \$4.2 trillion, and another \$843 billion goes to batteries. Investments in new fossil fuel plants doesn't exceed \$2 trillion. This works out to around \$416 billion per year.

As demand grows, so too does the grid, with distribution and transmission expansion needing an estimated \$11.4 trillion to 2050.

Excerpts from BloombergNEF's ["New Energy Outlook 2019"](#)

States, Canada, Europe and Asia on strategic minerals needed to support the renewable energy and storage industries.

Mr. MacDonald served for over a decade as a Federal Member of Parliament for Halifax, Nova Scotia, during which time the Prime Minister of Canada appointed him as Parliamentary Secretary of International Trade. Mr. MacDonald served for 5 years as President and CEO of the Council of Forest Industries, Canada's largest lumber manufacturing,

This investment total funds 15,145GW of new power plants between 2019 and 2050, of which 80% is zero carbon.

A further 1,666 GW of non-generating, flexible capacity, such as batteries and demand response, are installed as well. PV sees a fourteen-fold increase and wind a sixfold increase.

grading and marketing group, where he developed new markets in China, Korea, India and Japan. Ron was also a Director and Founding Member of Canada Wood, one of Canada's most successful marketing programs opening up global markets for Canadian Wood Products.

Board of Directors:

Michael Reimann (Ph.D.) - Director & CFO
Jared Lazerson - Director
Lyndon Patrick (LLB) - Director
David Hodge - Director
Ron Macdonald - Director, President & CEO

BloombergNEF



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that there are hardly any pure-play battery / energy storage companies publicly traded in North America; that MGXR / Zinc8 is ready to participate and prosper from the biggest transition of our modern-day energy systems; that the MGXR / Zinc8 team is fully dedicated to enter the energy storage market as fast as possible. Such forward-looking statements are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information. Risks that could change or prevent these statements from coming to fruition include that aspects or all of the process development may not be successful; the technology may not be cost-effective; MGXR may not raise sufficient funds to carry out its plans; changing costs for development, manufacturing and marketing; increased capital costs; interpretations based on current data that may change with more detailed information; the availability of labour, equipment and markets for the products produced. The writer assumes no responsibility to update or revise such information to reflect new events or circumstances, except as required by law.

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Stephan Bogner studied Economics, with specialization in Finance & Asset Management, Production & Operations, and Entrepreneurship & International Law, at the International School of Management



(Dortmund, Germany), the European Business School (London, UK) and the University of Queensland (Brisbane, Australia). Under [Prof. Dr. Hans J. Bocker](#), Stephan completed his diploma thesis ("Gold In A Macroeconomic Context With Special Consideration Of The Price Formation Process") in 2002. A year later, he marketed and translated into German Ferdinand Lips' bestseller "Gold Wars". After working in Dubai's commodity markets for 5 years, he now lives in Switzerland and is the CEO of [Elementum International AG](#) specialized in duty-free storage of gold and silver bullion in a high-security vaulting facility within the St. Gotthard Mountain in central Switzerland.

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