

# MGX Renewables Announces Production of Next Generation Cathodes for Zinc-Air Fuel Cell Battery

VANCOUVER, BRITISH COLUMBIA / September 3, 2019 / MGX Renewables Inc. ("MGXR" or the "Company") (CSE: MGXR / FSE: 0E9 is pleased to announce production of next generation carbon based cathode for its Zinc-Air Fuel Cell Battery. To date the Company has produced 300 cathodes for use in its initial mass storage battery systems. Each 5kW fuel cell stack utilizes 50 cathodes. MGXR has developed proprietary and patented fuel cell and battery technology and will continue to specialize in the design and manufacture of cathodes in-house. The planned initial scale-up of cathode production is for 36MW of annual equivalent capacity with a minimum storage of 8 hours or 288MWh of storage followed by the addition of similar scale fabrication machinery as necessary. The Company continues to develop a hybrid manufacturing strategy of leveraging its proprietary designs utilizing fabrication partners for standardized components such as injection molded pieces, with the most technically advanced and proprietary components, such as the fuel cell cathode, being manufactured in house.

## **MGXR Energy Storage System**

The MGXR ESS is a modular Energy Storage System designed to deliver power in the range 20kW - 50MW and energy storage in the range of 120kWh - 1GWh over extended periods of time. With the advantage of rechargeable zinc-air battery technology, the system can be configured to support a wide range of discharge power, recharge power and duty cycle requirements. Since the energy storage capacity of the system is determined only by the size of the zinc storage tank, a highly cost-effective and scalable solution now exists as an alternative to the fixed power/energy ratio of the lithium ion battery.



Figure 1. MGXR modular Energy Storage System (ESS)

# **Technology**

The MGXR ESS is based upon unique patented zinc-air battery technology. Energy is stored in the form of zinc particles, similar in size to grains of sand. When the system is delivering power, the zinc particles are combined with oxygen drawn from the surrounding air. When the system is recharging, zinc particles are regenerated, and oxygen is returned to the surrounding air.

# **Applications**

The flexibility of the MGXR ESS enables it to service a wide range of applications. Typical examples include:

- Storage and smoothing current from renewable energy sources such as wind and solar
- Commercial, industrial backup replacing diesel generators
- Industrial scale, on-demand power for peak shaving or standby
- Grid scale energy storage for energy trading and arbitrage

### **Architecture**

The MGXR ESS is designed according to a modular architecture that enables a wide variety of system configurations to be created from a small number of common subsystems. Each subsystem implements a single element of the technology:

• The Zinc Regeneration Subsystem (ZRS) provides the recharging function

- The Fuel Storage Subsystem (FSS) provides the energy storage function
- The Power Generation Subsystem (PGS) provides the discharging function

#### **About MGX Renewables**

MGXR has assembled an experienced team to execute the development and commercialization of a dependable low-cost zinc-air battery. This mass storage system offers both environmental and efficiency benefits. MGXR strives to meet the growing need for secure and reliable power.

The sun doesn't shine all the time. The wind doesn't blow all the time. MGX Renewables mass storage batteries for the rest of the time.

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# **Forward-Looking Statements**

This news release contains certain statements or disclosures relating to MGXR that are based on the expectations of its management as well as assumptions made by and information currently available to MGXR which may constitute forward-looking statements or information ("forward-looking statements") under applicable securities laws. All such statements and disclosures, other than those of historical fact, which address activities, events, outcomes, results or developments that MGXR anticipates or expects may, or will occur in the future (in whole or in part) should be considered forward-looking statements. In some cases, forward-looking statements can be identified by the use of the word "will", "could", "expect", "may" and other similar expressions. In particular, but without limiting the foregoing, this news release contains forward-looking statements pertaining to the listing of the MGXR Shares on the CSE.

MGXR believes the material factors, expectations and assumptions reflected in the forward-looking statements are reasonable at this time but no assurance can be given that these factors, expectations and assumptions will prove to be correct. The forward-looking statements included in this news release are not guarantees of future performance and should not be unduly relied upon. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements

including, without limitation: general economic, market and business conditions; the listing of the MGXR Shares may not be completed in the timelines anticipated, in the manner anticipated or at all; increased costs and expenses; and certain other risks detailed from time to time in MGXR's public disclosure documents including, without limitation, those risks identified in this news release, copies of which are available on MGXR's SEDAR profile at <a href="https://www.sedar.com">www.sedar.com</a>. Readers are cautioned that the foregoing list of factors is not exhaustive and are cautioned not to place undue reliance on these forward-looking statements.

The forward-looking statements contained in this news release are made as of the date hereof and the Company undertakes no obligations to update publicly or revise any forward-looking statements, whether as a result of new information, future events or otherwise, unless so required by applicable securities laws.

Neither the CSE nor any Market Regulator (as that term is defined in the policies of the CSE) accepts responsibility for the adequacy or accuracy of this release.