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Batteries Produced by iM3NY to be the Greenest in the Marketplace

- World renowned agency Abt Associates conducts and publishes a special article on batteries produced by C4V funded by New York State Energy Research and Development Authority [NYSERDA].
- New information points to batteries produced at the iM3NY Lithium-ion Battery Plant containing at least 87% less dirty energy per kilowatt hour versus comparable batteries.
- iM3NY to be the first factory to make these batteries at Gigawatt hour scale starting in 2021.

Magnis Energy Technologies Limited ["Magnis", or the "Company"] [ASX: MNS] is very pleased to announce that a special article has been released on a report sponsored by NYSERDA and prepared by world renowned Abt Associates on the Life Cycle Assessment for Charge CCCV [C4V] lithium-ion battery cells for electric vehicles. These batteries will be first produced in mass scale by iM3NY in Endicott NY. Magnis owns directly and indirectly approximately 58% of iM3NY.

Greenest Batteries in the Marketplace

Earlier findings on the Abt Associates report were previously announced on 24 August 2020. Abt Associates assessed the environmental impact of C4V's lithium-ion battery production for NYSERDA, and the recent results were published by Abt Associates in a special article with key outcomes highlighted below.

"Our lifecycle analysis found C4V's batteries which are used to power EVs consume fewer metals and less-toxic materials during manufacture than comparable lithium cell batteries. This leads to lower global warming, acidification, smog, and energy consumption when compared to other Li-ion battery production processes."

“Manufacturing lithium batteries or any product with dirty energy drastically increases the associated pollution, especially products that require vast amount of energy to manufacture. Think of it as garbage in, garbage out. C4V’s lithium batteries require 89 MJ of “dirty energy” per battery kWh manufactured. We found comparable batteries manufactured with more fossil fuels consumed 719 to 1,219 dirty energy-inclusive MJ per battery kWh manufactured. This significant differential is explained in part by the fact that C4V chose New York to host its manufacturing facilities.”

“New York’s Clean Energy Standard was revised in 2019 to require 100 percent carbon-free electricity by 2040. In 2018, 29 percent of New York’s in-state generation at both large- and small-scale facilities came from renewable sources. The state ranks 14th in renewable electricity production as percent of total generation, so it’s energy is cleaner than that produced by most other states. This means there’s less additional pollution associated with the energy used for production. For the manufacture of Li-ion and other, similar products, choosing to build those products with clean energy goes a long way to reducing their environmental impact.”

“The other old environmental adage about material consumption—Reduce, Reuse, Recycle holds here as well. In the case of Li-ion batteries, they contain many toxic chemicals—such as copper lithium, nickel, cadmium, and other heavy metals—that require a substantial amount of energy and produce a lot of pollution and waste during the refining and manufacturing processes. C4V found ways to build a battery that reduces its use of toxic materials compared to similar lithium cell batteries. Again, this translated into less pollution during the manufacturing process and lower environmental impacts. For example, It appears comparable batteries use nearly double the amount of copper used in the C4V battery and copper refining is often a primary driver of particulate emissions in battery manufacturing.”

“What can other manufacturers learn from this analysis? That choices made when building a product are important. Sometimes manufacturers may choose dirtier processes or materials because they’re cheaper, more convenient, or more efficient in the short-term. However, this tradeoff of old is no longer necessary. Now, manufacturers can choose processes that are cleaner, more efficient, and consider all the externalities of production.”

Background on the Life Cycle Assessment of C4V Batteries for the Electric Vehicle Market

Abt Associates Inc., under a program funded and sponsored by NYSERDA evaluated C4V batteries for the life cycle assessment in electric vehicle market. Abt Associates is a global leader in research, evaluation and program implementation driving innovation and measurable impact for more than 50 years. With over 2,500 employees their development focus is on using evidence and cutting-edge methods to improve the lives and economic well-being of people worldwide.

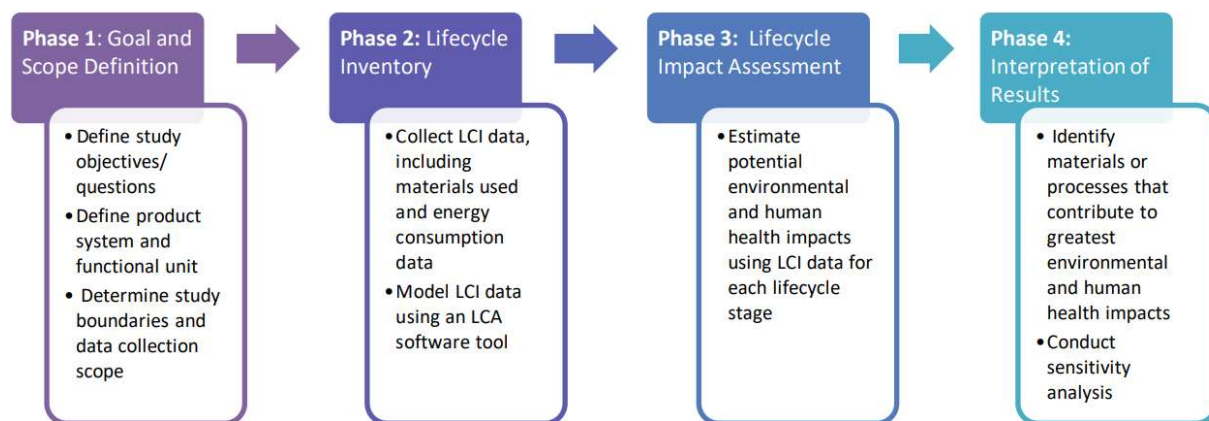


Figure 1 – Life Cycle Assessment Phases

The study looked at categories such as acidification, carcinogenic effects, ecotoxicity, eutrophication, non-carcinogenic effects, ozone depletion, respiratory effects, and smog in the production of materials.

CV4 Technology and iM3NY

C4V is a front-runner in cutting edge technology development based in New York. It has been developing a Cobalt free battery since 2012 and has all major patents granted in the USA and other major countries globally. C4V has made major investments in R&D, end user product testing, supply chain qualification and technology validation at the system level [end applications].

iM3NY will be the first Giga watt hour scale facility gearing up for production next year. The supply chain qualified for production in New York will be the first non-Chinese supply chain in the industry with a large portion of production pre-sold.

C4V President Shailesh Upreti commented: “We have always said that we would like to be known as the greenest battery technology company ever and we are very close to demonstrating this on a large scale. We look forward to announcing our plans for production at iM3NY in 2021 and creating the second largest cell manufacturing plant in the US behind Tesla’s plant in Nevada.”

Magnis Chairman Frank Poullas commented: “Today’s data showing that our batteries which will be produced in New York will produce up to 92% less dirty energy versus comparable batteries in the marketplace is quite extraordinary. We look forward to mass producing these green batteries in the near future.”

This announcement has been authorised for release by the Board of Magnis Energy Technologies Limited [ACN 115 111 763].

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