EnZinc and US Naval Research Laboratory Project to Build a Better Battery
Featured in Science Magazine

Peer-Reviewed Journal Publishes Details of 3D Zinc Battery Technology

SAN ANSELMO, Calif – 27 April 2017 – EnZinc, a clean battery technology developer, and the U.S. Naval Research Laboratory have been published in the prestigious Science magazine on their work to develop a unique three-dimensional (3D) zinc electrode. The research aims to bring a safer, more affordable rechargeable battery to market for electric vehicles, ebikes, and home and grid energy storage.

“This breakthrough in rechargeable battery technology means that zinc has the potential to displace lithium because it is a safer, more affordable, and more readily available material,” said President and CEO of EnZinc, Michael Burz. “Large battery-powered electronics from electric vehicles to home energy storage will be able to be powered by cleaner, fully recyclable zinc-based batteries—and they’ll carry none of the fire risk of lithium-based batteries.”

The report is the culmination of six years of development on a unique 3D zinc sponge structure that for the first time allows zinc, the fourth most mined metal on the planet, to be used as an anode in a rechargeable high performance battery. The 3D zinc material is inherently safe and totally recyclable, offering a number of advantages over lead acid and lithium ion batteries.

Researchers have tried to make a rechargeable zinc anode since Edison first patented it in the 1900s. However dendrites—stalactite-like growths that short out a zinc battery when it was recharged—shortened the cycle life of zinc, limiting it to disposable batteries or complex fuel cells. This structure of this new 3D zinc anode eliminates the issue, resulting in a battery that will offer performance comparable to Li-ion batteries with a price more like lead-acid batteries. This new anode can be coupled with various cathode materials to produce a family of batteries for multiple applications ranging from electric vehicles to grid energy storage.

Their work was partially funded from the U.S. Department of Energy’s Advanced Research Projects Agency - Energy (ARPA-E) Robust Affordable Next Generation Energy Storage Program, the remaining funding from the Office of Naval Research and private funding.

The article can be accessed at: http://science.sciencemag.org/content/356/6336/415
About EnZinc
EnZinc is an engineering technology company focused on developing advanced high performance green batteries to power the twenty first century. Based in the San Francisco Bay Area, the company applies aerospace and automotive engineering practices to energy storage development. For more information visit the EnZinc website or join the conversation on Twitter.

About the U.S. Naval Research Laboratory
The U.S. Naval Research Laboratory provides the advanced scientific capabilities required to bolster our country's position of global naval leadership. The Laboratory, with a total complement of approximately 2,500 personnel, is located in southwest Washington, D.C., with other major sites at the Stennis Space Center, Miss., and Monterey, Calif. NRL has served the Navy and the nation for over 90 years and continues to advance research further than you can imagine. For more information, visit the NRL website or join the conversation on Twitter, Facebook, and YouTube.