

Eos says zinc battery recipe is energy game-changer

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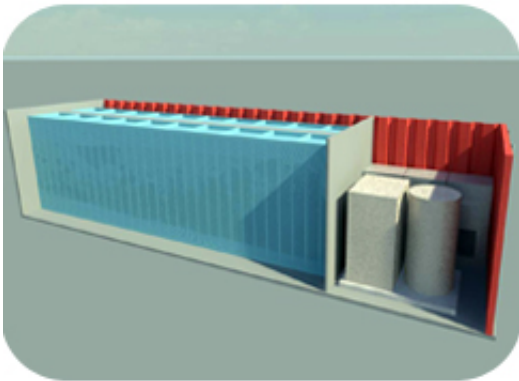


Image: EOS

(PhysOrg.com) -- Tall order in energy storage: Find the right technology that delivers the holy grail of the grid, a viable solution for energy storage (tough). A startup from Easton, Pennsylvania claims it's on the fastest path. Eos Energy Storage has a formula for zinc-air batteries that it thinks can eventually be the dominant technology for use in the grid.

Eos Energy is on a mission to develop a low-cost, high-energy rechargeable zinc-air battery for utility and transportation applications.

Zinc air technology in general has been recognized as an environmentally safe approach with the benefit of high energy densities. What has held the technology back has been low efficiency and short life cycles.

Though cheaper, though lighter, than lithium ion batteries, zinc air batteries have run down much more quickly, unsuitable for application on a grid level.

The batteries have so far been largely limited to the small button cells used for hearing aids.

Eos Energy says it resolved the shortcomings through its advances in electrolyte chemistry and cell design. Its proprietary technology involves the battery architecture, electrolyte composition and management and manufacturing process. Eos zinc air technology has been under development by Eos since 2004.

CEO Michael Oster, has said that this is “not your typical zinc-air.” Steven Amendola, an inventor and founder of Eos, is also the founder of Renewable Silicon International (RSi), a silicon processing technology.

The company says its batteries beat out lithium ion batteries in [energy storage](#) and cost. Their trials show over 2,700 cycles with no performance physical degradation in a one third kilowatt-scale battery. Their goal is to get over 10,000 cycles at full depth of discharge. Their final product is expected to last for 30 years in grid-scale applications.

Analysts say that the company’s [technology](#) could show promise for grid storage and electric vehicles. With the right pricing and performance, zinc air batteries may compete not only against other energy storage systems but also grid technologies such as gas turbine plants. The company has an impressive list of product benefits, and investors have been responsive. Eos zinc-air battery is environmentally safe, in that it relies on materials that are nontoxic and nonflammable. Oster has said, “You could flush it down a drain; you could drink it.” In an SEC filing, Eos indicated its plans to raise up to \$20 million in venture capital.

Eos plans to start manufacturing this year and to work up megawatt-scale systems for grid storage in 2013. The Eos rechargeable zinc-air battery would be sold for \$1000 per kilowatt for a six-hour [battery](#), or \$160 per kilowatt-hour. Zinc generally enjoys status as one of the world's most plentiful and inexpensive metals, along with its other qualities as being stable, nontoxic and energy-dense.

More information: www.eosenergystorage.com/technology

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