A Flow Battery for Long Duration Applications

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Abstract

ZincNyx has developed a unique flow battery using zinc and air as the rechargeable fuel. The system is distinguished from many other flow batteries by its ability to completely decouple its energy and power parameters. The flexibility of the system is further enhanced by the separation of the discharge and recharge functions, enabling the system to be optimized for a variety of recharge scenarios. With a chemistry based on zinc in a potassium hydroxide electrolyte, the system provides the most cost-effective solution for long duration energy storage applications.

The presentation will briefly describe the history of the technology and provide details of the current implementation that lead to its market readiness. It will also highlight the architecture of the system in comparison with alternative battery approaches. The simplicity of the manufacturing process facilitates introduction into geographic markets without the large investments required for competing technologies.

The flexibility of the system enables a diverse range of applications to be addressed using the same building blocks. Examples including retail outlet lighting, solar powered remote sites and railway motive power will be described.