



Hydrostor Activates World's First Utility-Scale Underwater Compressed Air Energy Storage System

November 18, 2015

Hydrostor Corp., on November 18, 2015 announces the activation of the world's first underwater compressed air energy storage system. Apart from pumped hydro and cavern-based compressed air storage (which have few applicable sites), Hydrostor's storage solution is the lowest cost energy storage solution available.

The Hydrostor system is located in Toronto, Canada's largest city, and includes underwater air storage located 2.5 km offshore in Lake Ontario, as well as a mechanical facility located on Toronto Island.

The Hydrostor system will be operated by utility host Toronto Hydro and is designed to store electricity during off-peak hours when demand is low and electricity is cheapest, and return the stored electricity during times of high demand or during short-term power outages.



Hydrostor is unique as it uses compressed air and the pressure of water to run its system, and produces zero emissions. The technology works by running electricity through a compressor and converting it into compressed air. The compressed air is sent underwater where it is stored in large balloon-like structures. When electricity is needed again, the weight of the water pushes the air to the surface through an airline to an expander which converts the air back into electricity.

“Achieving this milestone demonstrates Hydrostor's ability to assist utilities in addressing peaking and reserve power requirements, as well as integrating intermittent renewable energy.” said Curtis VanWalleghem, Hydrostor's CEO. “Hydrostor's storage system combined with renewable energy provides an economically sound alternative to fossil fuel generation.”

Although Hydrostor’s solution has many potential applications, the company will initially focus on developing projects in coastal cities, island nations and micro-grids. These projects may be stand-alone storage systems or combine storage with renewable generation.

“Hydrostor has cracked the toughest nut of cleantech - low-cost grid-scale energy storage” enthused Tom Rand, Managing Partner of ArcTern Ventures – and early backer of Hydrostor. "By enabling a flexible and robust grid, energy storage enables massive penetration of renewables at increasingly competitive pricing. I’m really proud to be involved with this great team as they deliver their breakthrough technology to a rapidly expanding market."

Hydrostor intends to finalize a series of strategic partnerships to rapidly bring this innovative new storage solution to customers globally.

Additional highlights of Hydrostor’s solution include:

- Capital costs less than half of competing li-ion battery technology with over twice the cycle life.
- Small land footprint making it ideal for island nations and large coastal cities.
- Far less environmental impact than pumped hydro.
- Greater flexibility and substantially increased siting options compared to pumped hydro or cavern-based compressed air solutions.
- Commercially available today using proven equipment from 5MW | 30MWh up to over 100MW | 1,000MWh.

PHOTOS:



Photos: building – upper left; machinery – upper right; underwater air storage system – bottom row

ABOUT HYDROSTOR: Hydrostor Inc. (“Hydrostor”, or the “Company”) is a Canadian, privately-held company commercializing its innovative, patent-protected, underwater compressed air energy storage system.

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