



# CANADA'S ENERGY STORAGE BUILDING BLOCKS FOR THE FUTURE OF ENERGY

Energy storage technologies are crucial to creating energy systems of the future. Canadian firms show expertise across the energy storage value spectrum from energy arbitrage services, flexibility services to off-grid electrification.

Canadian companies provide innovative energy storage solutions for industrial customers as well as residential and off-grid requirements. Cutting-edge research and commercialisation in Canada has advanced many innovative technologies such as flow batteries, flywheels, compressed air, hydrogen, and pumped hydro.

The global energy storage market is expected to be worth \$230 billion by 2020. Canadian firms are well placed to capture a significant share of this opportunity. With favourable regulations around net-metering and ancillary services in different provinces, the storage sector in Canada is expected to increase at a rapid pace. It recognizes how clean energy resources can contribute to building the energy system of the future at the grid, distribution and customer levels, including the electrification of transport and helping remote communities reduce the use of diesel.

**Global deployment of energy storage solutions expected to increase 6 times between 2016 and 2024**



## **HYDROSTOR** > [www.hydrostor.ca](http://www.hydrostor.ca)

**Hydrostor** develops compressed air energy storage systems. The company's patented Advanced Compressed Air Energy Storage (A-CAES) technology is a low-cost bulk energy storage solution. Hydrostor and AECOM have partnered to jointly market and construct A-CAES systems globally. Hydrostor Terra™ is a low-cost, utility-scale storage solution that is emission-free, can be deployed at any site in proximity to a body of water and has an unlimited cycle life over 30+ years.

Hydrostor's technology allows utilities to store off-peak renewable generation to supply on-peak demand, reducing reliance on shipped-in diesel generation, and storing off-peak generation within city centers reducing congested transmission lines. Facilities can be contracted on a pay-per-use basis under a long-term power purchase agreement or through a warranty-backed direct sale.

## EXAMPLES OF INNOVATIVE COMPANIES INCLUDE:



### **PEAK POWER** > [www.peakpowerenergy.com](http://www.peakpowerenergy.com)

**Peak Power** offers “energy storage as a service” using Big Data and machine-learning algorithms to manage how energy-storage technology interacts with the grid. Peak Power, in partnership with BGIS, Canada’s leading real estate management services provider, offers energy storage services to their clients to help them reduce their electricity costs.

Battery energy storage, when controlled through Peak Power’s proprietary Synergy™ intelligent software platform, provides multiple benefits to building owners including increased resiliency, improved environmental performance, electricity bill savings, and additional revenues from participation in utility programs. With systems deployed in Canada, New York and Massachusetts, Peak Power is aiming to expand further in North American, European, Australian and Asian markets.



### **CORVUS ENERGY** > [www.corvusenergy.com](http://www.corvusenergy.com)

**Corvus Energy** deploys large-scale energy storage systems using advanced lithium-ion battery systems proven economical, safe, and reliable in a range of challenging maritime and transportation applications. Corvus Energy has successfully retrofitted an operational ferry in Norway—the Folgefonn—with a one-megawatt lithium-ion battery pack that replaces the main drive engines. The fully electric ferry will increase safety and reliability over incumbent technology while reducing maintenance costs of existing systems and generators. In addition, a reduction of 700,000 litres of marine diesel fuel per year will generate considerable environmental benefits, such as reducing CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub> and particulate matter.



### **NRSTOR** > [www.nrstor.com](http://www.nrstor.com)

**NRStor Inc.** is an energy storage project developer. NRStor develops, owns and operates industry-leading energy storage projects in partnership with progressive stakeholders and leading technology providers. NRStor built Canada’s first commercial grid-connected flywheel facility, and is developing Canada’s first commercial compressed air energy storage facility. They offer commercial & industrial customers solutions to lower their energy bills, and are working in partnership with indigenous communities to reduce dependence on diesel fuel.

## MORE ENERGY STORAGE POWER SOLUTIONS:

- > Avalon Battery Corp.
- > Ballard Power Systems Inc.
- > Corvus Energy
- > Electroveya
- > e-Zn Inc.
- > Gbatteries Energy Canada Inc.
- > NextEra Energy Canada
- > Sigma Energy Storage



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For more information about Canadian innovative energy companies and projects please visit  
> [energyinnovationsnapshot.ca](http://energyinnovationsnapshot.ca)

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