

# China Energy Storage for Grid System Industry Report, 2014-2017

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# **Abstracts**

Energy storage has a wide range of applications in electric power system, involving all aspects of power generation, transmission, distribution and end user. The energy storage technologies for grid system include pumped storage, compressed air, flywheel, chemical battery, super capacitor, etc. Except the relatively mature pumped storage, others are still at the early stage of industrialization or under research. However, all governments have been virtually aware of the importance of energy storage industry, hence a desperate need for development of energy storage.

To create a clean, sustainable future, the Chinese government is shifting its focus in policy to clean energy technology. As of the end of 2013, China's total installed capacity of power generation had reached 1,250GW, which contained 91.4GW of wind power (accounting for 7.3%), the third power source in China following thermal power and hydropower. Meanwhile, China had seen a photovoltaic (PV) power generation installed capacity of 18.1GW (representing 1.5%), overtaking the United States as the world's largest photovoltaic market.

As the installed power generation capacity grows rapidly, the demand for energy storage in China is increasingly expanding. In 2013, the installed capacity of pumped storage in China totaled 21.5GW, in contrast to 65MW for other technologies; while the demand for energy storage for peak-load regulation of power grid was 95GW and expected to rise to 110GW in 2014, reflecting a great development potential. In addition, an integrated grid of wind power and PV power will generate a considerable demand for energy storage, at 5.6GW and 3.8GW, respectively, in 2014.

There are various kinds of energy storage technologies for grid system, with China, for example, primarily adopting lithium batteries, lead-acid batteries and flow technology



(excluding pumped storage), which held respective proportions of 60%, 20% and 14% in 2013.

As of the end of August 2014, there had been scores of energy storage enterprises in China. Among them, China Aviation Lithium Battery Co., Ltd. and SUNWODA Electronics Co., Ltd. employ lithium battery energy storage technology; Narada Power Source Co., Ltd. and Shandong Sacred Sun Power Sources Co., ltd. adopt lead-acid battery technology; Dalian Rongke Power Co. Ltd and Prudent Energy Inc. depend on flow technology; Shanghai Electric Group Co., Ltd. and Sieyuan Electric Co., Ltd. resort to sodium-sulfur energy storage technology.

China Energy Storage for Grid System Industry Report, 2014-2017 compiled by ResearchInChina is mainly concerned with the followings:

Development environment, trends, etc. of energy storage for grid system in China;

Current situation and prediction of energy storage for grid system in China by market size, competitive landscape, and applications;

Operation and technical route of 21 major energy storage manufacturers in China and worldwide, including Alstom, Narada, Shanghai Electric, and Rongke Power, etc.



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