

## European Solar Energy Storage

# Research on business model of energy storage equipment



## Overview

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Rapid growth of intermittent renewable power generation makes the identification of investment opportunities in energy storage and the establishment of their profitability indispensable. Here we first present a conc.

What are the business models for large energy storage systems?

The business models for large energy storage systems like PHS and CAES are changing. Their role is tradition-ally to support the energy system, where large amounts of baseload capacity cannot deliver enough flexibility to respond to changes in demand during the day.

How many business models are there for energy storage technologies?

Figure 1 depicts 28 distinct business models for energy storage technologies that we identify based on the combination of the three parameters described above. Each business model, represented by a box in Figure 1, applies storage to solve a particular problem and to generate a distinct revenue stream for a specific market role.

How do business models of energy storage work?

Building upon both strands of work, we propose to characterize business models of energy storage as the combination of an application of storage with the revenue stream earned from the operation and the market role of the investor.

Are energy storage business models fully developed?

Though the business models are not yet fully developed, the cases indicate some initial trends for energy storage technology. Energy storage is becoming an independent asset class in the energy system; it is neither part of transmission and distribution, nor generation. We see four key lessons emerging from the cases.

Are business models for energy storage unprofitable or ambiguous?

The main finding is that examined business models for energy storage given in the set of technologies are largely found to be unprofitable or ambiguous.

Are energy storage projects ready for a bright future?

In anticipation of a bright future, the first projects with energy storage are being set up. We have analyzed some of these cases and clustered them according to their position in the energy value chain and the type of revenues associated with the business model.

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### Business models in energy storage

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### **Business Models and Profitability of Energy Storage**

Our goal is to give an overview of the profitability of business models for energy storage, showing which business model performed by a certain technology has been examined and identified as rather profitable or unprofitable.



### **Research on Business Models and Development Prospects of**

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This paper centers on researching the business models and prospects of user-side energy storage in the market context. Initially, it elaborates on the development of energy storage in China and the policy environment influencing it.

### **Energy Storage Technologies and Business Model**

By examining the current state of energy storage technologies and providing insights into the development of sustainable business models, this paper aims to contribute to the understanding of the role of energy storage in enabling the transition towards a ...



## Business Models and Profitability of Energy Storage

Here we first present a conceptual framework to characterize business models of energy storage and systematically differentiate investment opportunities.



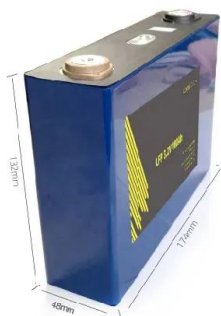
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## New Energy Storage Business Models and Revenue Levels ...

Under the current energy storage market conditions in China, analyzing the application scenarios, business models, and economic benefits of energy storage is conducive to provide a fundamental basis for the future large-scale development and commercial operation of new energy storage.



## Research on Energy Storage Business Model and Optimized

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The gradual participation of energy storage in the electricity spot market has become a trend, and it is urgent to explore energy storage business models and operational strategies that are compatible with the spot market mechanism.



## Business Models and Profitability of Energy Storage

We then use the framework to examine which storage technologies can perform the identified business models and review recent literature regarding the profitability of individual combinations of business models and technologies.

## Business Models and Profitability of Energy Storage

This paper presents a conceptual framework to describe business models of energy storage. Using the framework, we identify 28 distinct business models applicable to modern power systems.



## Business Models and Profitability of Energy Storage

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