

# **Global Advanced Energy Storage Systems Market Size study, by Application (Grid Storage, Transportation, Others), by Technology (Mechanical, Thermal, Electro Chemical, Others), by Storage Type (Batteries, Flywheels, Compressed Air Storage, Pumped Hydro-Power, Others), and Regional Forecasts 2022-2032**

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## **Abstracts**

The global advanced energy storage systems market was valued at USD 79.21 billion in 2023 and is anticipated to grow with a healthy growth rate of more than 7.93% over the forecast period 2024-2032. Advanced energy storage systems are critical components in the energy landscape, offering solutions to store energy efficiently and effectively.

These systems are pivotal in managing energy supply and demand, optimizing energy use, and ensuring stability and reliability in power systems. The market for advanced energy storage systems is driven by several key factors including increasing investments in renewable energy, a growing electric vehicle industry, and evolving government policies aimed at enhancing energy efficiency.

Increased investment in renewable energy sources is one of the major drivers of market growth. As the global demand for clean and sustainable energy sources rises, the need for efficient energy storage solutions becomes more pressing. Renewable energy sources like solar and wind power are intermittent, which creates a need for reliable energy storage systems to ensure a steady energy supply. For instance, the International Energy Agency (IA) reported that global investments in the electricity sector reached over USD 820 billion in 2021, with a significant portion directed towards renewable energy projects. Such investments highlight the critical role of advanced energy storage systems in supporting the renewable energy infrastructure. Additionally, the market is bolstered by the rapid growth of the electric vehicle (EV) industry. The

increasing adoption of EVs requires advanced battery storage solutions to support their operation and enhance their efficiency. The transportation segment, driven by the use of lithium-ion batteries in EVs, dominated the market in 2023 and is expected to continue its growth trajectory.

Technological advancements in energy storage systems, such as the integration of software for better control, monitoring, and forecasting, are also propelling market growth. For example, Honeywell introduced a battery energy storage system (BESS) platform in June 2021, incorporating advanced features for improved performance. However, the market faces challenges such as the preference for glass-lined reactors over glass reactors due to their superior strength and durability at higher temperatures. Additionally, the delicate nature of glass reactors compared to reactors made from materials like stainless steel poses concerns regarding maintenance costs. Geographically, North America is expected to lead the global advanced energy storage systems market, driven by technological advancements, research initiatives, and government support for renewable energy. Europe follows, with substantial growth driven by the increased production of power from renewable sources and the rising demand for electric vehicles. The Asia-Pacific region is anticipated to experience the fastest growth during the forecast period, fueled by increasing power demand in developing nations and supportive government policies promoting low-carbon energy sources.

Major market players included in this report are:

AES Corporation (US)

Tesla, Inc. (US)

GENERAL ELECTRIC (US)

ABB (Switzerland)

Saft (France)

LG Chem (South Korea)

Siemens AG (Germany)

Panasonic Corporation (Japan)

Electrovaya (Canada)

Hitachi, Ltd. (Japan)

The detailed segments and sub-segment of the market are explained below:

By Application:

- Grid Storage
- Transportation
- Others

By Technology:

- Mechanical

- Thermal
- Electro Chemical
- Others

By Storage Type:

- Batteries
- Flywheels
- Compressed Air Storage
- Pumped Hydro-Power
- Others

By Region: North America

- U.S.
- Canada

Europe

- UK
- Germany
- France
- Spain
- Italy
- ROE

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea
- RoAPAC

Latin America

- Brazil
- Mexico

Middle East & Africa

- Saudi Arabia
- South Africa
- RoMEA

Years considered for the study are as follows:

- Historical year – 2022
- Base year – 2023
- Forecast period – 2024 to 2032

Key Takeaways:

- Market Estimates & Forecast for 10 years from 2022 to 2032.

- Annualized revenues and regional level analysis for each market segment.
- Detailed analysis of geographical landscape with Country level analysis of major regions.
- Competitive landscape with information on major players in the market.
- Analysis of key business strategies and recommendations on future market approach.
- Analysis of competitive structure of the market.
- Demand side and supply side analysis of the market.

## Contents

### **CHAPTER 1. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET EXECUTIVE SUMMARY**

- 1.1. Global Advanced Energy Storage Systems Market Size & Forecast (2022-2032)
- 1.2. Regional Summary
- 1.3. Segmental Summary
  - 1.3.1. By Application
  - 1.3.2. By Technology
  - 1.3.3. By Storage Type
- 1.4. Key Trends
- 1.5. Recession Impact
- 1.6. Analyst Recommendation & Conclusion

### **CHAPTER 2. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET DEFINITION AND RESEARCH ASSUMPTIONS**

- 2.1. Research Objective
- 2.2. Market Definition
- 2.3. Research Assumptions
  - 2.3.1. Inclusion & Exclusion
  - 2.3.2. Limitations
  - 2.3.3. Supply Side Analysis
    - 2.3.3.1. Availability
    - 2.3.3.2. Infrastructure
    - 2.3.3.3. Regulatory Environment
    - 2.3.3.4. Market Competition
    - 2.3.3.5. Economic Viability (Consumer's Perspective)
  - 2.3.4. Demand Side Analysis
    - 2.3.4.1. Regulatory frameworks
    - 2.3.4.2. Technological Advancements
    - 2.3.4.3. Environmental Considerations
    - 2.3.4.4. Consumer Awareness & Acceptance
- 2.4. Estimation Methodology
- 2.5. Years Considered for the Study
- 2.6. Currency Conversion Rates

### **CHAPTER 3. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET**

*Global Advanced Energy Storage Systems Market Size study, by Application (Grid Storage, Transportation, Others...*

## **DYNAMICS**

### 3.1. Market Drivers

- 3.1.1. Growing investment in renewable energy
- 3.1.2. Increase in the global electric vehicle industry
- 3.1.3. Shifting government policies to raise demand for energy efficiency

### 3.2. Market Challenges

- 3.2.1. Preference for glass-lined reactors over glass reactors
- 3.2.2. Delicate nature and maintenance costs of glass reactors

### 3.3. Market Opportunities

- 3.3.1. Technological advancements in energy storage systems
- 3.3.2. Rising demand for advanced energy storage systems in Asia-Pacific

## **CHAPTER 4. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET INDUSTRY ANALYSIS**

### 4.1. Porter's 5 Force Model

- 4.1.1. Bargaining Power of Suppliers
- 4.1.2. Bargaining Power of Buyers
- 4.1.3. Threat of New Entrants
- 4.1.4. Threat of Substitutes
- 4.1.5. Competitive Rivalry
- 4.1.6. Futuristic Approach to Porter's 5 Force Model
- 4.1.7. Porter's 5 Force Impact Analysis

### 4.2. PESTEL Analysis

- 4.2.1. Political
- 4.2.2. Economical
- 4.2.3. Social
- 4.2.4. Technological
- 4.2.5. Environmental
- 4.2.6. Legal

### 4.3. Top investment opportunity

### 4.4. Top winning strategies

### 4.5. Disruptive Trends

### 4.6. Industry Expert Perspective

### 4.7. Analyst Recommendation & Conclusion

## **CHAPTER 5. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET SIZE & FORECASTS BY APPLICATION 2022-2032**

### 5.1. Segment Dashboard

### 5.2. Global Advanced Energy Storage Systems Market: Application Revenue Trend Analysis, 2022 & 2032 (USD Billion)

#### 5.2.1. Grid Storage

#### 5.2.2. Transportation

#### 5.2.3. Others

## **CHAPTER 6. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET SIZE & FORECASTS BY TECHNOLOGY 2022-2032**

### 6.1. Segment Dashboard

### 6.2. Global Advanced Energy Storage Systems Market: Technology Revenue Trend Analysis, 2022 & 2032 (USD Billion)

#### 6.2.1. Mechanical

#### 6.2.2. Thermal

#### 6.2.3. Electro Chemical

#### 6.2.4. Others

## **CHAPTER 7. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET SIZE & FORECASTS BY STORAGE TYPE 2022-2032**

### 7.1. Segment Dashboard

### 7.2. Global Advanced Energy Storage Systems Market: Storage Type Revenue Trend Analysis, 2022 & 2032 (USD Billion)

#### 7.2.1. Batteries

#### 7.2.2. Flywheels

#### 7.2.3. Compressed Air Storage

#### 7.2.4. Pumped Hydro-Power

#### 7.2.5. Others

## **CHAPTER 8. GLOBAL ADVANCED ENERGY STORAGE SYSTEMS MARKET SIZE & FORECASTS BY REGION 2022-2032**

### 8.1. North America Advanced Energy Storage Systems Market

#### 8.1.1. U.S. Advanced Energy Storage Systems Market

##### 8.1.1.1. Application breakdown size & forecasts, 2022-2032

##### 8.1.1.2. Technology breakdown size & forecasts, 2022-2032

##### 8.1.1.3. Storage Type breakdown size & forecasts, 2022-2032

- 8.1.2. Canada Advanced Energy Storage Systems Market
- 8.2. Europe Advanced Energy Storage Systems Market
  - 8.2.1. U.K. Advanced Energy Storage Systems Market
  - 8.2.2. Germany Advanced Energy Storage Systems Market
  - 8.2.3. France Advanced Energy Storage Systems Market
  - 8.2.4. Spain Advanced Energy Storage Systems Market
  - 8.2.5. Italy Advanced Energy Storage Systems Market
  - 8.2.6. Rest of Europe Advanced Energy Storage Systems Market
- 8.3. Asia-Pacific Advanced Energy Storage Systems Market
  - 8.3.1. China Advanced Energy Storage Systems Market
  - 8.3.2. India Advanced Energy Storage Systems Market
  - 8.3.3. Japan Advanced Energy Storage Systems Market
  - 8.3.4. Australia Advanced Energy Storage Systems Market
  - 8.3.5. South Korea Advanced Energy Storage Systems Market
  - 8.3.6. Rest of Asia Pacific Advanced Energy Storage Systems Market
- 8.4. Latin America Advanced Energy Storage Systems Market
  - 8.4.1. Brazil Advanced Energy Storage Systems Market
  - 8.4.2. Mexico Advanced Energy Storage Systems Market
  - 8.4.3. Rest of Latin America Advanced Energy Storage Systems Market
- 8.5. Middle East & Africa Advanced Energy Storage Systems Market
  - 8.5.1. Saudi Arabia Advanced Energy Storage Systems Market
  - 8.5.2. South Africa Advanced Energy Storage Systems Market
  - 8.5.3. Rest of Middle East & Africa Advanced Energy Storage Systems Market

## **CHAPTER 9. COMPETITIVE INTELLIGENCE**

- 9.1. Key Company SWOT Analysis
  - 9.1.1. Company
  - 9.1.2. Company
  - 9.1.3. Company
- 9.2. Top Market Strategies
- 9.3. Company Profiles
  - 9.3.1. AES Corporation (US)
    - 9.3.1.1. Key Information
    - 9.3.1.2. Overview
    - 9.3.1.3. Financial (Subject to Data Availability)
    - 9.3.1.4. Product Summary
    - 9.3.1.5. Market Strategies
  - 9.3.2. Tesla, Inc. (US)



- 9.3.3. GENERAL ELECTRIC (US)
- 9.3.4. ABB (Switzerland)
- 9.3.5. Saft (France)
- 9.3.6. LG Chem (South Korea)
- 9.3.7. Siemens AG (Germany)
- 9.3.8. Panasonic Corporation (Japan)
- 9.3.9. Electrovaya (Canada)
- 9.3.10. Hitachi, Ltd. (Japan)

## **CHAPTER 10. RESEARCH PROCESS**

- 10.1. Research Process
  - 10.1.1. Data Mining
  - 10.1.2. Analysis
  - 10.1.3. Market Estimation
  - 10.1.4. Validation
  - 10.1.5. Publishing
- 10.2. Research Attributes

## List Of Tables

### LIST OF TABLES

TABLE 1. Global Advanced Energy Storage Systems market, report scope

TABLE 2. Global Advanced Energy Storage Systems market estimates & forecasts by Region 2022-2032 (USD Billion)

TABLE 3. Global Advanced Energy Storage Systems market estimates & forecasts by Application 2022-2032 (USD Billion)

TABLE 4. Global Advanced Energy Storage Systems market estimates & forecasts by Technology 2022-2032 (USD Billion)

TABLE 5. Global Advanced Energy Storage Systems market by segment, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 6. Global Advanced Energy Storage Systems market by region, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 7. Global Advanced Energy Storage Systems market by segment, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 8. Global Advanced Energy Storage Systems market by region, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 9. Global Advanced Energy Storage Systems market by segment, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 10. Global Advanced Energy Storage Systems market by region, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 11. Global Advanced Energy Storage Systems market by segment, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 12. Global Advanced Energy Storage Systems market by region, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 13. Global Advanced Energy Storage Systems market by segment, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 14. Global Advanced Energy Storage Systems market by region, estimates & forecasts, 2022-2032 (USD Billion)

TABLE 15. U.S. Advanced Energy Storage Systems market estimates & forecasts, 2022-2032 (USD Billion)

TABLE 16. U.S. Advanced Energy Storage Systems market estimates & forecasts by segment 2022-2032 (USD Billion)

TABLE 17. U.S. Advanced Energy Storage Systems market estimates & forecasts by segment 2022-2032 (USD Billion)

TABLE 18. Canada Advanced Energy Storage Systems market estimates & forecasts, 2022-2032 (USD Billion)

TABLE 19. Canada Advanced Energy Storage Systems market estimates & forecasts by segment 2022-2032 (USD Billion)

TABLE 20. Canada Advanced Energy Storage Systems market estimates & forecasts by segment 2022-2032 (USD Billion)

.....

This list is not complete, final report does contain more than 100 tables. The list may be updated in the final deliverable.

## List Of Figures

### LIST OF FIGURES

- FIG 1. Global Advanced Energy Storage Systems market, research methodology
- FIG 2. Global Advanced Energy Storage Systems market, market estimation techniques
- FIG 3. Global market size estimates & forecast methods.
- FIG 4. Global Advanced Energy Storage Systems market, key trends 2023
- FIG 5. Global Advanced Energy Storage Systems market, growth prospects 2022-2032
- FIG 6. Global Advanced Energy Storage Systems market, porters 5 force model
- FIG 7. Global Advanced Energy Storage Systems market, PESTEL analysis
- FIG 8. Global Advanced Energy Storage Systems market, value chain analysis
- FIG 9. Global Advanced Energy Storage Systems market by segment, 2022 & 2032 (USD Billion)
- FIG 10. Global Advanced Energy Storage Systems market by segment, 2022 & 2032 (USD Billion)
- FIG 11. Global Advanced Energy Storage Systems market by segment, 2022 & 2032 (USD Billion)
- FIG 12. Global Advanced Energy Storage Systems market by segment, 2022 & 2032 (USD Billion)
- FIG 13. Global Advanced Energy Storage Systems market by segment, 2022 & 2032 (USD Billion)
- FIG 14. Global Advanced Energy Storage Systems market, regional snapshot 2022 & 2032
- FIG 15. North America Advanced Energy Storage Systems market 2022 & 2032 (USD Billion)
- FIG 16. Europe Advanced Energy Storage Systems market 2022 & 2032 (USD Billion)
- FIG 17. Asia pacific Advanced Energy Storage Systems market 2022 & 2032 (USD Billion)
- FIG 18. Latin America Advanced Energy Storage Systems market 2022 & 2032 (USD Billion)
- FIG 19. Middle East & Africa Advanced Energy Storage Systems market 2022 & 2032 (USD Billion)
- FIG 20. Global Advanced Energy Storage Systems market, company market share analysis (2023)

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