Saudi Arabia Energy Storage Market Size, Share and Outlook - Growth Analysis Report and Forecast Trends (2026-2035)

Market Report | 2026-03-17 | 124 pages | EMR Inc.

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Report description:

The Saudi Arabia energy storage market was valued at USD 183.52 Million in 2025 . The market is expected to grow at a CAGR of 15.90% during the forecast period of 2026-2035 to reach a value of USD 802.63 Million by 2035 . Solar capacity is expanding at a rapid pace that it requires grid operators to introduce advanced battery storage systems to manage demand at the peak, hours, stabilize frequency deviations, and cut down renewable energy curtailment in high-generation corridors.

Key Market Trends and Insights

- By type, the battery energy storage system category is expected to record a CAGR of 18.1% over the forecast period.
- By connectivity, the on-grid category is expected to grow at a CAGR of 16.6% during the forecast period.
- By application, the grid-scale utility segment is expected to grow at a CAGR of 17.1% over the forecast period.

Market Size & Forecast

- Market Size in 2025: USD 183.52 Million
- Projected Market Size in 2035: USD 802.63 Million
- CAGR from 2026 to 2035: 15.90%

The Saudi Arabia energy storage market witnesses surging demand from industrial parks for local storage capacity so that they can control the peak tariffs and also guarantee continuous operation. Secondly, the big giga-projects like NEOM are setting integrated microgrid storage as a requirement from the beginning which in turn compels the developers to come up with high-reliability systems instead of add-on retrofitted systems.

In September 2025, SEC awarded one of the region's largest battery storage contracts, boosting grid resilience and renewable

integration under Vision 2030's energy transition agenda. The move aligns with the country's target of generating 50% of electricity from renewables by 2030 under Vision 2030, according to the Saudi Arabia energy storage market analysis. Grid-scale storage is being embedded into utility planning to stabilize solar-heavy generation portfolios. The government has already tendered multiple gigawatt-scale renewable projects.

The Saudi Arabia energy storage market is shifting from pilot installations to utility-backed capacity blocks. Developers are bidding for standalone battery projects while also attaching storage to solar IPP contracts. In December 2025, Saudi grid integrated a 7.8 GWh battery storage project, enhancing stability and renewable power dispatch capabilities under national energy transition initiatives. Storage operators are relying on arbitrage, securing availability payments and grid support compensation mechanisms. Moreover, corporate strategy is becoming more deliberate. EPC contractors are forming technology alliances with lithium-ion and LFP suppliers.

Saudi Arabia Energy Storage Market Report Summary

Description

Value

Base Year

USD Million

2025

Historical Period

USD Million

2019-2025

Forecast Period

USD Million

2026-2035

Market Size 2025

USD Million

183.52

Market Size 2035

USD Million

802.63

CAGR 2019-2025

Percentage

%

CAGR 2026-2035

Percentage

15.90%

CAGR 2026-2035 - Market by Type

Batteries

18.1%

CAGR 2026-2035 - Market by Type

Thermal Energy Storage (TES)

17.0%

CAGR 2026-2035 - Market by Connectivity

On-Grid

16.6%

CAGR 2026-2035 - Market by Application

Grid-Scale Utility (Front-of-Meter)

17.1%

Key Trends and Recent Developments

February 2026 - Turkiye-Saudi Arabia Advanced 5GW Renewable Partnership

Turkiye and Saudi Arabia announced plans to sign the second phase of a 5 GW renewable energy cooperation at COP31, adding 3 GW solar and wind capacity. Such developments in the Saudi Arabia energy storage market create opportunity for inverter suppliers, EMS software firms, and EPC contractors to participate in utility-scale expansion and long-term grid service contracts.

October 2025 - Trina Storage Introduced 6MWh Next-Generation Energy Storage System

Trina Storage launched its 6MWh integrated battery system in Saudi Arabia, targeting higher density, faster deployment, and improved thermal management performance. This opens opportunities for local integrators and industrial developers to adopt modular high-capacity systems for commercial microgrids and hybrid renewable projects.

May 2025 - Saudi Aramco Deployed Renewable Energy Storage for Gas Operations

Saudi Aramco unveiled a renewable-powered battery storage solution supporting gas production facilities, reducing diesel reliance and operational emissions intensity. Energy technology providers can partner with oil and gas operators to integrate storage-backed renewable systems across upstream and midstream infrastructure sites, boosting the overall Saudi Arabia energy storage market growth.

February 2025 - BYD Partnered with Saudi Arabia on Mega Battery Storage Project

BYD collaborated with Saudi stakeholders to advance one of the world's largest battery energy storage initiatives, reinforcing long-duration storage ambitions. Global battery manufacturers and material suppliers can secure joint ventures in localized production and long-term maintenance ecosystems supporting giga-scale deployments.

Utility-Scale Battery Procurement Acceleration

Saudi Arabia is formalizing large-scale battery tenders to match its renewable pipeline. Developers are responding with containerized lithium iron phosphate systems optimized for desert temperatures. Thermal management innovation is critical in Saudi climates. Advanced liquid cooling designs are being prioritized to maintain battery life cycles. Contractors are designing substations with pre-engineered storage bays. This trend in the Saudi Arabia energy storage market reduces later upgrade cost and improves system stability once renewable penetration rises further. In August 2025, Hithium integrated high-capacity 1,175 Ah batteries into multiple 4 GWh Saudi energy storage sites, boosting duration and grid reliability performance.

NEOM and Giga-Project Microgrid Architecture

NEOM is advancing fully renewable powered infrastructure supported by large-scale storage systems. The project's design framework includes integrated battery arrays to ensure round-the-clock clean energy supply. This creates demand for high-density storage capable of managing both residential and industrial loads. Technology vendors are testing hybrid storage combinations that include battery plus hydrogen backup. The giga-project model compels suppliers to prove performance at scale. It also accelerates innovation in energy management software, redefining the entire Saudi Arabia energy storage market dynamics. In October 2025, NEOM welcomed Larsen & Toubro to construct upstream solar, wind, grid and storage infrastructure supporting its 4 GW green hydrogen hub in Saudi Arabia.

Industrial Peak-Shaving Deployments

Heavy industries in Jubail and Yanbu are examining behind-the-meter storage to manage peak demand charges. Industrial operators face high consumption during specific production cycles, boosting demand in the Saudi Arabia energy storage market. Storage systems allow them to smooth load curves. Engineering firms are tailoring modular battery blocks that integrate with existing switchgear, which reduces downtime during installation. The Ministry of Energy is encouraging industrial efficiency measures aligned with carbon reduction commitments. In January 2026, AlphaESS introduced modular storage units tailored for small commercial and industrial customers, enabling scalable energy resilience and peak-shaving solutions.

Localization of Battery Assembly

Saudi Arabia is considering assembling battery systems domestically to comply with localization requirements. Energy storage system integrators are looking into collaboration opportunities to jointly assemble battery packs and enclosures locally in the Kingdom. This reduces logistics delays and currency exposure and also creates skilled employment opportunities, accelerating the Saudi Arabia energy storage market expansion. While cell production remains capital intensive, pack assembly and integration present immediate opportunity. Companies that secure early partnerships may gain procurement preference in future tenders. In April 2025, Saudi Arabia unveiled expanded renewable energy and battery storage commitments to diversify its energy mix and boost sustainable capacity across the nation.

Advanced Energy Management Software Integration

Energy storage projects are increasingly bundled with digital control platforms. Fine-tuning their dispatch schedules requires operators to get predictive analytics. They are also planning to incorporate AI-driven forecasting tools for analyzing load data and weather patterns. It is critical for grid operators to have a real-time view of how storage systems are performing. Vendors are offering integrated dashboards that connect to national dispatch centers. This software layer enhances asset value and strengthens long-term service contracts, thus creating several Saudi Arabia energy storage market opportunities. Storage is evolving from hardware supply to performance-based energy services. In January 2026, CATL inaugurated a major aftermarket hub in Riyadh, scaling battery servicing, repairs, and EV component distribution across the region.

Saudi Arabia Energy Storage Industry Segmentation

The EMR's report titled ?Saudi Arabia Energy Storage Market Report and Forecast 2026-2035? offers a detailed analysis of the market based on the following segments:

Market Breakup by Type

- Batteries
- Pumped-storage Hydroelectricity (PSH)
- Thermal Energy Storage (TES)
- Flywheel Energy Storage (FES)
- Others

Key Insight: Batteries lead the Saudi Arabia energy storage market growth due to flexibility and fast deployment. The usage of pumped storage hydroelectricity remains constrained by terrain and water availability. Thermal systems are gaining major momentum because cooling demand in the region is high year-round. Flywheel systems serve precision frequency control in industrial settings. Other technologies appear in hybrid pilot projects where developers test multi-layer resilience. Companies are choosing storage solutions based on heat tolerance, scalability, and integration ease within large-scale renewable portfolios.

Market Breakup by Connectivity

- Off-Grid
- On-Grid

Key Insight: As per the Saudi Arabia energy storage market report, on-grid systems currently capture a substantial share of the market because utility procurement drives large capacity blocks. Off-grid deployments are accelerating inside mega-developments and isolated industrial zones. On-grid installations stabilize national transmission networks while off-grid systems support autonomous infrastructure planning. In May 2024, Sungrow signed a 760 MWh off-grid storage contract to advance Vision 2030's renewable goals and improve remote grid resilience. Connectivity decisions depend on geography and

project scale. Developers evaluate whether grid extension or microgrid autonomy offers better economics.

Market Breakup by Application

- Grid-Scale Utility (Front-of-Meter)
- Residential Behind-the-Meter
- Commercial and Industrial Behind-the-Meter
- Data Centers and Critical Facilities
- Others

Key Insight: Grid-scale utility projects retain their dominance in the market due to renewable integration mandates. Commercial and industrial deployments are rising through cost optimization strategies. Residential systems remain niche but signal future distributed adoption. Data centers prioritize storage for uptime and redundancy, boosting demand in the Saudi Arabia energy storage market. Other applications appear within hybrid mixed-use developments. Companies that customize solutions for each operational context are gaining stronger traction.

Saudi Arabia Energy Storage Market Share

By type, batteries account for the dominant share of the deployments due to rapid solar integration

Battery energy storage systems continue to lead the Saudi market. Lithium iron phosphate and advanced lithium-ion chemistries are being deployed alongside utility-scale solar plants. Developers favor batteries because installation timelines are shorter and modular expansion is easier. The Saudi grid requires fast response to manage evening demand spikes after solar output drops. EPC contractors are also designing containerized units engineered for desert heat tolerance. Liquid cooling innovation has become a procurement differentiator. Banks prefer battery-backed projects because performance metrics are measurable and predictable.

Thermal energy storage is gaining traction across the Saudi Arabia energy storage market scope through large-scale infrastructure developments and district cooling networks. Saudi Arabia's giga-projects are specifying integrated cooling solutions that combine renewable power with stored thermal capacity. Molten salt systems linked to concentrated solar plants are also under evaluation. Industrial facilities are examining thermal storage to reduce electricity consumption during peak cooling hours. The appeal lies in efficiency gains rather than pure electricity arbitrage. Developers are optimizing building-level cooling loads using chilled water storage tanks. In April 2025, KAUST researchers created battery systems engineered for extreme desert heat, improving reliability, and performance of large-scale storage installations.

By connectivity, on-grid systems secure the dominant share of the market through utility-backed storage procurement

On-grid storage systems hold the largest share in the Saudi Arabia energy storage market because utility-scale solar and wind expansion requires centralized balancing. Saudi Arabia's transmission upgrades are incorporating battery bays at substations. Developers structure projects around grid service payments and capacity contracts. This creates predictable revenue streams. On-grid storage also improves frequency regulation and voltage stability in renewable-heavy corridors. Government procurement frameworks support competitive bidding for integrated storage packages. Large-scale systems are installed adjacent to renewable IPP projects to reduce curtailment risk. In October 2025, EVE Energy presented its 5 MWh high C-rate grid storage and modular C&I systems in Saudi Arabia to support peak-demand response and renewables integration.

Off-grid storage is also contributing to the Saudi Arabia energy storage market revenue through giga-projects, remote industrial sites, and tourism developments. These areas often operate as semi-autonomous microgrids. Developers are integrating solar, wind, and battery clusters to ensure 24-hour supply without diesel dependence. Advanced microgrid controllers are being

deployed to balance fluctuating loads. Off-grid solutions reduce reliance on long transmission extensions, while lowering infrastructure cost in remote regions. The growth of this segment is tied to ambitious real estate and industrial projects designed around sustainability targets.

By application, grid-scale utility leads the market through renewable integration mandates

Grid-scale utility applications account for the dominant share within the Saudi Arabia energy storage market dynamics. Storage is being embedded within renewable IPP frameworks to stabilize supply. Large battery blocks connected to substations manage evening load ramps. Performance guarantees and long-duration capability are becoming central to tender requirements. Developers are designing multi-hundred-megawatt installations with phased commissioning plans. The dominance of grid-scale projects reflects national policy alignment. Saudi Arabia's energy transition roadmap depends on balancing renewable growth with system stability. In February 2026, Saudi Arabia awarded 24.4 GW of power contracts, accelerating utility-scale solar and storage deployment under clean energy expansion plans.

Commercial and industrial applications are rapidly accelerating growth in the Saudi Arabia energy storage market. Manufacturing plants and logistics hubs are installing behind-the-meter battery systems to control peak tariffs. Industrial operators seek resilience against supply fluctuations. Some facilities are pairing rooftop solar with battery cabinets to reduce daytime grid draw. Engineering firms are tailoring modular systems that integrate with existing switchgear without major downtime. Carbon reduction commitments are also influencing corporate investment decisions.

Competitive Landscape

Competition in the energy storage market of Saudi Arabia revolves around the reliability of technology and the tactic of localization. International battery manufacturers are teaming up with local EPC contractors to be eligible for the tender. Saudi Arabia energy storage market players are committing to thermal management systems that are specifically designed for high ambient temperatures.

Moreover, assembly localization is becoming a policy priority. Saudi Arabia energy storage companies that domestically manufacture a percentage of their products can have an advantage in procurement. Software integration is yet another area of competition. Developers of hardware are combining asset monitoring platforms with their devices to seal long-term service contracts with customers.

BYD Co. Ltd.

BYD, established in 1995 in Shenzhen, China, is a global supplier of large-scale battery energy storage systems. The company is preparing utility tenders in Saudi Arabia with the containerized lithium iron phosphate solutions which are designed for tolerance of high temperatures. BYD aims to control cell production and system assembly, to be able to consistently deliver performance.

Afaq Energy Company (SkyEnergy)

Afaq Energy Company (SkyEnergy) was incorporated in 2019, and is based in Riyadh, Saudi Arabia. It is a renewable plus storage focused company at the core of commercial projects. They design and implement hybrid solar plus storage systems aimed at industrial and real estate clients, accelerating the Saudi Arabia energy storage market development. Besides, having a local engineering team helps them comply with the national content requirements.

LG Energy Solution Ltd.

The company LG Energy Solution was established in 2020 and has its head office located in Seoul, South Korea. LG Energy Solution is a pioneer in manufacturing advanced lithium-ion batteries mainly targeted at utility and commercial storage. They focus heavily on long lifecycle performance and safety engineering. For projects in Saudi, LG teams up with EPC contractors to provide high-capacity battery modules that are bankable.

GS Yuasa International Ltd.

GS Yuasa was founded in 2004 and is headquartered in Kyoto, Japan. The company is a supplier of industrial battery systems for grid and infrastructure applications. Its main focus is on the durability and performance of batteries under extremely harsh climates. Its battery solutions are mainly used for energy resilience and critical facilities projects throughout the region.

Other key players in the market include Sungrow Power Supply Co., Ltd., Hitachi Energy Ltd., Wartsila Corp., Algihaz Holding, JinkoSolar Holding Co., Ltd., and GCL Holding Co. Ltd., among others.

Key Highlights of the Saudi Arabia Energy Storage Market Report

- Detailed segmentation across technology, connectivity, and application layers.
- Insight into giga-project driven storage architecture.
- Evaluation of localization strategies shaping procurement eligibility.
- Competitive benchmarking of global and domestic storage suppliers.
- Forward-looking assessment of hybrid renewable-storage integration models.

Why Rely on Expert Market Research?

- Specialized expertise in Middle East power infrastructure markets.
- Grounded analysis reflecting Saudi regulatory and climate conditions.
- Company-focused insights supporting investor and EPC decision-making.
- Research methodology combining industry interviews and strategic evaluation frameworks.

Call to Action

Explore the latest trends shaping the Saudi Arabia energy storage Market 2026-2035 with our in-depth report. Gain strategic insights, future forecasts, and key market developments that can help you stay competitive. Download a free sample report or contact our team for customized consultation on Saudi Arabia energy storage market trends 2026 .

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