

INDUSTRY OVERVIEW

The information and statistics set out in this section and other sections of this document were extracted from the F&S Report, which was commissioned by the Company, and from various official government publications and available resources from public market research. The Company engaged Frost & Sullivan to prepare the F&S Report in connection with the [REDACTED]. The information from official government sources has not been independently verified by any of the Sole Sponsor, the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], any of their respective directors and advisors, or any other persons or parties involved in the [REDACTED] (other than Frost & Sullivan), and no representation is given as to its accuracy. For discussion of the risks related to the Group’s industry, see “Risk Factors — Risks Relating to Our Business and Industry” in this document.

SOURCE OF INFORMATION

We commissioned Frost & Sullivan to conduct market research on the global clean power conversion device industry and prepare the Frost & Sullivan Report. Frost & Sullivan is an independent global consulting firm founded in 1961 in New York that offers industry research and market strategies. We have contracted to pay RMB800,000.00 to Frost & Sullivan for compiling the Frost & Sullivan Report.

In preparing the Frost & Sullivan Report, Frost & Sullivan conducted detailed primary research that involved discussing the status of the industry with certain leading industry participants and conducting interviews with relevant parties. Frost & Sullivan also conducted secondary research, which involved reviewing company reports, independent research reports and data based on its own research database. Frost & Sullivan obtained the figures for the estimated total market size from historical data analysis plotted against macroeconomic data, while also considering the above-mentioned industry key drivers. Its market engineering forecasting methodology integrates several forecasting techniques with the market engineering measurement-based system and relies on the expertise of the analyst team in integrating the critical market elements investigated during the research phase of the project. These elements primarily include expert-opinion forecasting methodology, as well as integration of market drivers and restraints, integration with market challenges, integration of the market engineering measurement trends and integration of econometric variables.

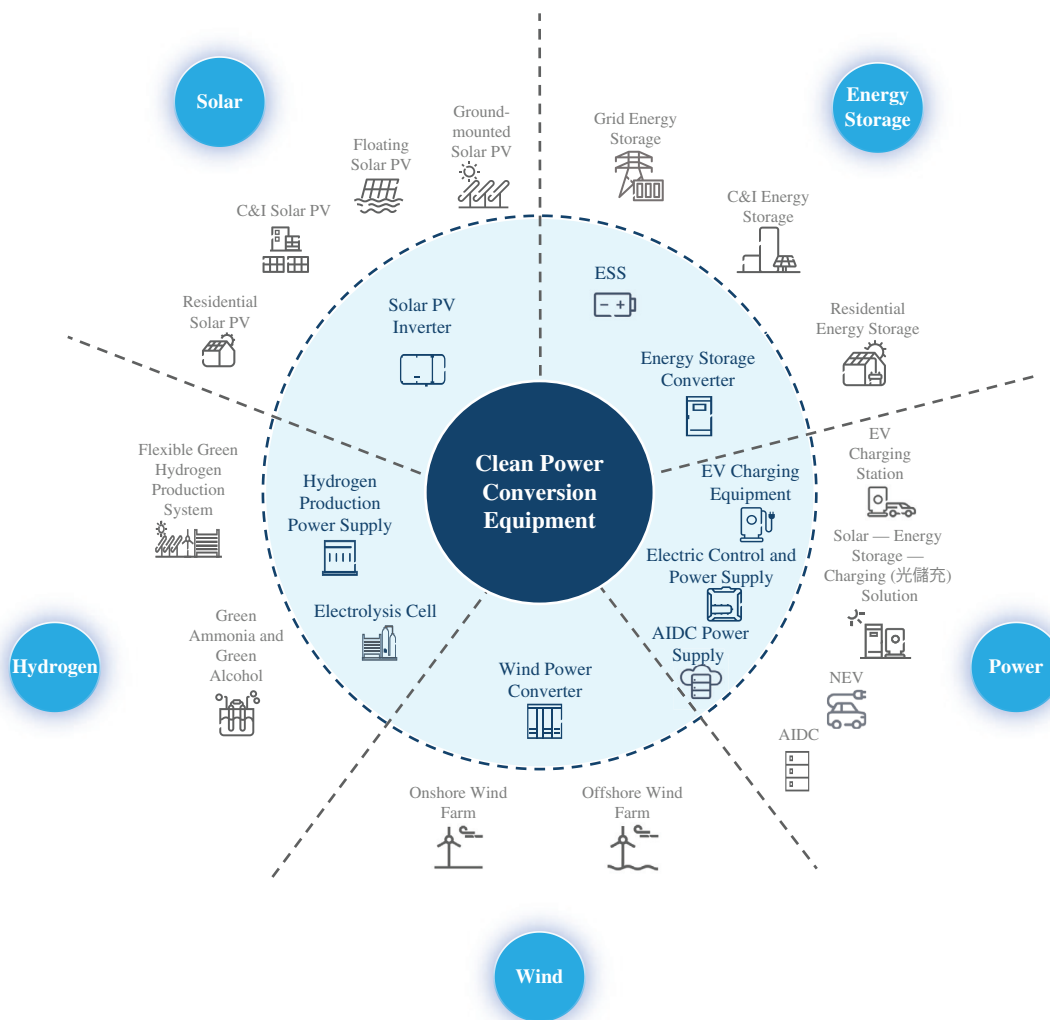
The Frost & Sullivan Report is compiled based on the following assumptions: (i) the global social, economic and political environment is likely to remain stable in the forecast period; and (ii) related industry key drivers are likely to drive the market in the forecast period.

INDUSTRY OVERVIEW

INTRODUCTION OF CLEAN POWER CONVERSION DEVICE

The clean power conversion device forms the backbone of the global clean energy system, encompassing solar photovoltaic (PV) inverters, wind power converters, energy storage systems (ESS), hydrogen production power supplies and electrolysis cells, electric control and power supply systems for new energy vehicles (NEV), EV charging equipment, and AIDC power supplies. The clean power conversion device enables the efficient generation, storage and application of clean power, building a closed-loop system from energy development to end-use consumption and providing a solid foundation for advancing the energy transition and achieving global low-carbon development.

Clean Power Conversion Device and Application Scenarios



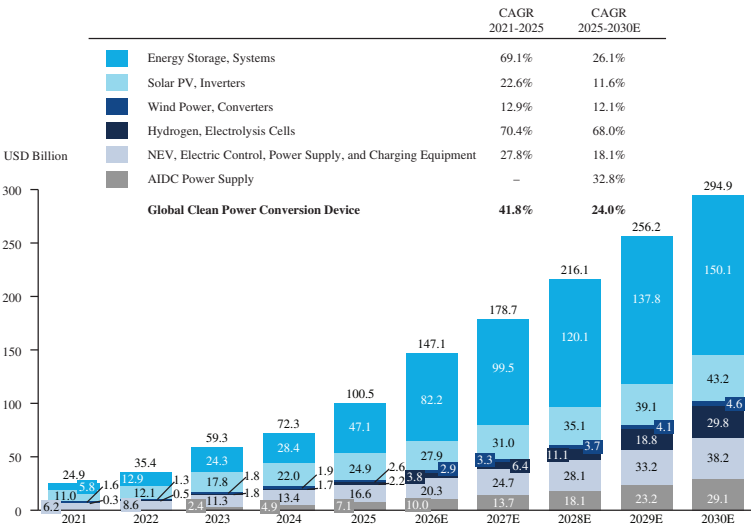
Source: International Energy Agency (IEA), International Renewable Energy Agency (IRENA), Frost & Sullivan

INDUSTRY OVERVIEW

Market Size of the Global Clean Power Conversion Device

Driven by global carbon reduction goals and energy structure adjustments, the global clean power conversion device market expanded from USD24.9 billion in 2021 to USD100.5 billion in 2025, with a CAGR of 41.8%, and is expected to reach USD294.9 billion by 2030, with a CAGR of 24.0% from 2025.

Market Size of the Global Clean Power Conversion Device Industry by Source, 2021-2030E



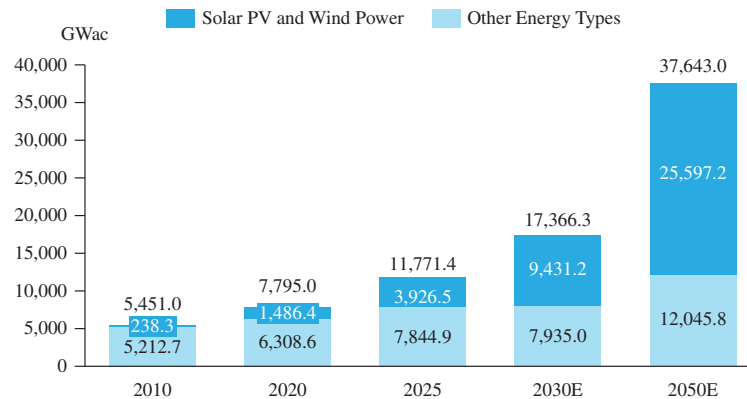
Source: International Energy Agency (IEA), Global Wind Energy Council (GWEC), International Renewable Energy Agency (IRENA), Solar Power Europe (SPE), U.S. Energy Information Administration (EIA), National Energy Administration of China, China Hydrogen Alliance, Frost & Sullivan

Development of the Global Clean Power Industry

The global power system is undergoing significant growth and structural transformation. The global power generation cumulative installed capacity expanded from 7,795.0 GWac in 2020 to 11,771.4 GWac in 2025, representing a CAGR of 8.6%. It is projected to reach 17,366.3 GWac by 2030 and 37,643.0 GWac by 2050, with a CAGR of 8.1% from 2025 to 2030. Among the key drivers, high-density electricity consumption scenarios such as data centers are expanding rapidly: in 2025, data centers already accounted for about 4% of global power demand, and this share is expected to exceed 10% by 2030, creating rising requirements for high-performance and highly reliable power devices. At the same time, the cumulative installed capacity of solar PV power and wind power as a percentage of the cumulative installed capacity of global power mix has increased from 4.4% in 2010 to 33.4% in 2025, and is expected to reach 68.0% by 2050. Under the combined effect of power scale expansion and structural adjustment, the global energy system is accelerating toward a clean power model centered on solar PV and wind power.

INDUSTRY OVERVIEW

Global Power Generation Cumulative Installed Capacity by Energy Type, 2010-2050E



Source: IEA, GWEC, IRENA, SPE, U.S. EIA, Frost & Sullivan

The large-scale integration of highly volatile renewable energy presents unprecedented challenges to grid security and stability. As a critical pillar of the next-generation power system, the energy storage market is expanding rapidly: the global newly installed capacity of lithium battery ESS increased from 23.6 GWh in 2021 to 324.1 GWh in 2025, representing a CAGR of 92.5%. This figure is projected to reach 1,164.7 GWh by 2030, with a CAGR of approximately 29.2% from 2025 to 2030. Meanwhile, the surge in AIDC construction has significantly amplified the demand for high-performance power solutions. Markets for key devices including HVDC power supplies and solid-state transformers (SST) are expanding rapidly, with the global AIDC power supply market expected to grow from around USD7.1 billion in 2025 to approximately USD29.1 billion by 2030, registering a CAGR of 32.8%. In addition, emerging application scenarios such as microgrids, off-grid systems and zero-carbon zones are developing quickly, driving up demand for integrated generation — grid — load — storage (“源網荷儲”) energy solutions. Against this backdrop, the leading global providers of clean power conversion devices are well positioned for in-depth participation in all aspects of generation — grid — load — storage business construction, following the trends of both the rising power demand and structural transformation of the energy sector, while capitalizing on the global opportunities created by the growth of green computing power.

OVERVIEW OF THE GLOBAL SOLAR PV INDUSTRY

Introduction of Solar PV Industry

Solar PV power generation converts solar energy into electricity based on the photovoltaic effect and represents an important component of renewable energy. In the power conversion process, inverters serve as the core device, efficiently converting direct current (DC) into grid-compatible alternating current (AC), while also synchronizing with ESS and next-generation power systems. This enhances energy utilization efficiency and system stability. With major global economies advancing carbon neutrality goals, declining technology costs, and expanding storage applications, the solar PV industry is becoming a key driver in promoting the green transition of the energy structure and low-carbon development.

INDUSTRY OVERVIEW

The upstream segment of the solar PV industry chain includes solar PV modules along with their upstream industrial chain, PV inverters, mounting structures, among others. The midstream segment primarily involves solar PV system integration and power station construction, bringing together materials and components to deliver complete solar PV power stations. The downstream segment focuses on power generation and operation and maintenance (O&M), covering application scenarios such as ground-mounted power stations, C&I solar PV, and residential solar PV.

Market Drivers and Development Trends Analysis of the Global Solar PV Industry

Carbon Neutrality Targets and Policy Support Driving the Solar PV Industry

In December 2015, nearly 200 parties to the “United Nations Framework Convention on Climate Change” unanimously adopted the “Paris Agreement,” setting clear global emission reduction goals. Against the backdrop of energy transition, the EU launched the “Green Deal” in 2019, targeting net-zero greenhouse gas emissions by 2050. In 2020, China established its “Dual Carbon” strategy, aiming to peak carbon emissions by 2030 and achieve carbon neutrality by 2060. As of April 2026, according to NetZero Tracker, 139 countries and regions worldwide have announced carbon neutrality goals, covering 74% of global greenhouse gas emissions, 77% of the world’s economy, and 79% of the global population. In 2024, the General Office of the State Council of China released the “Work Plan for Accelerating the Establishment of a Carbon Emission Dual-Control System” (《加快构建碳排放双控制度體系工作方案》), further improving planning systems related to carbon emissions and expediting the green transition of development models. In 2025, the EU passed the “Clean Industrial Deal,” establishing an Industrial Decarbonization Bank and planning to mobilize EUR100 billion to promote the coordinated development of energy-intensive industries and clean technologies. Continuous policy support not only provides long-term growth visibility for the solar PV industry but also drives collaborative development across the value chain, accelerating technology commercialization and market expansion.

Sustained Improvement in Solar PV Economics

The overall economic viability of solar PV has been increasingly evident, with its levelized cost of electricity (LCOE) falling sharply worldwide. According to IRENA, the LCOE of solar PV dropped from USD0.417/kWh in 2010 to USD0.040/kWh in 2025, a decline of approximately 90%, achieving grid parity with conventional energy sources. It is expected to further decrease to USD0.03/kWh by 2030. The core drivers of cost reduction include (i) economies of scale resulting from capacity expansion, process optimization and supply chain collaboration; and (ii) technological development that continuously improves power generation efficiency per unit area and overall system performance. For example, in solar cell technology, PERC has evolved into more efficient types such as TOPCon, HJT, BC and perovskite, significantly enhancing energy conversion efficiency per unit area. In the inverter segment, the application of advanced power devices has made system operations more efficient, flexible and adaptable to grid integration.

INDUSTRY OVERVIEW

Rising Demand for Green Computing Power Accelerating the Adoption of Clean Energy

The rapid development of artificial intelligence and other frontier technologies is driving a continuous surge in global computing power demand. By 2030, global AI computing power demand is projected to reach over 800 ZFLOPS, over 10 times that of 2025. As electricity costs account for more than 50% of data center operating expenses, the expansion of computing power scale has created immense energy consumption pressure, significantly boosting demand for clean energy in computing infrastructure. Leveraging cost advantages and deployment flexibility, solar PV, combined with direct green power supply and grid-forming energy storage solutions, is expected to become a core enabler of green computing infrastructure. In China, projects integrating green power and computing resources are advancing steadily, with some data centers achieving up to 85% annual clean energy supply. In the Middle East, countries such as the UAE are capitalizing on abundant solar resources to build distributed solar PV and storage-integrated systems around data center campuses, providing low-carbon electricity to support stable AIDC operations.

Deepening Electrification with Solar PV Empowering Diverse Applications

According to IRENA, the global electrification rate — defined as the share of electricity in total final energy consumption — is expected to rise from 23% in 2025 to nearly 45% by 2050, as more end-use applications shift from traditional energy sources to clean energy, including solar PV. In transportation, the integration of solar PV, energy storage and EV charging equipment lowers charging costs while supporting peak shaving. In agriculture and industry, applications such as solar PV greenhouses and solar PV-powered factories are being increasingly adopted.

Combined Solar PV and Green Hydrogen to Drive Deep Decarbonization of the Energy System

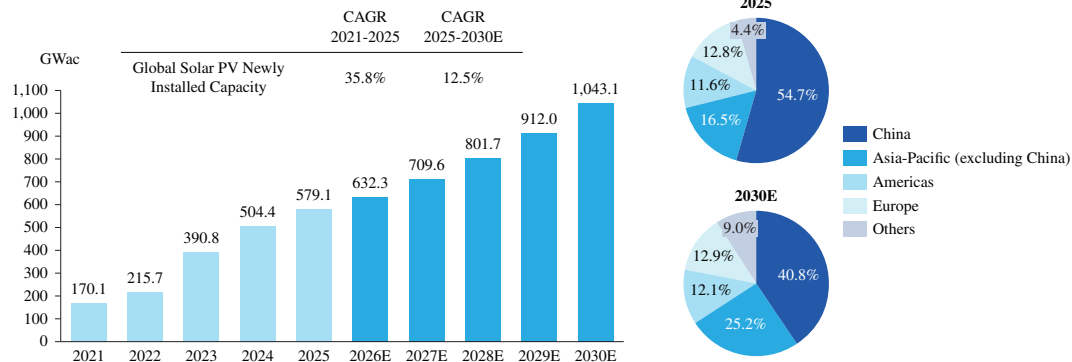
Combining solar PV with flexible hydrogen production technologies enables the electrolysis of water to produce green hydrogen, which is storable and transportable. This not only helps address intermittency and curtailment challenges of solar PV but also offers low-carbon energy solutions for energy-intensive industries such as steel, chemicals and transportation. Global green hydrogen production is expected to exceed 24 million tons by 2030 and surpass 300 million tons by 2050, accounting for 60% of total hydrogen output, thereby continuously advancing the low-carbon transition of the energy system.

INDUSTRY OVERVIEW

Market Size of the Global Solar PV Industry

Global solar PV newly installed capacity has continued to grow steadily, increasing from 170.1 GWac in 2021 to 579.1 GWac in 2025, representing a CAGR of 35.8%. By 2030, global solar PV newly installed capacity is projected to reach 1,043.1 GWac, with a CAGR of 12.5% from 2025 to 2030. In particular, the growth expectations for emerging markets are significant. In Latin America, solar PV newly installed capacity is forecast to exceed 50 GWac by 2030, with a CAGR of approximately 17.8% between 2025 and 2030. In Sub-Saharan Africa, driven by widening electricity supply gaps and the growing adoption of applications such as microgrids, the solar PV newly installed capacity is expected to surpass 40 GWac by 2030, with a CAGR of 56.5% over the same period.

Global Solar PV Newly Installed Capacity by Major Countries and Regions, 2021-2030E



Source: National Energy Administration of China, IEA, Solar Energy Industries Association (SEIA), Frost & Sullivan

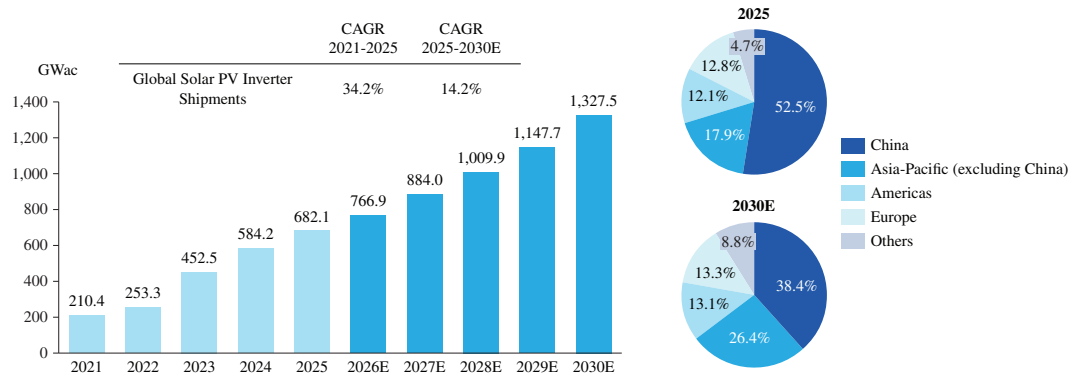
Solar PV newly installed capacity can be classified into ground-mounted, C&I, and residential by applications. The widespread adoption of utility-scale projects is mainly attributed to scaled development, improved economies of solar PV and favorable policies. Ground-mounted projects are being accelerated in China, while desert and barren land resources are being actively developed in the regions including Middle East. In 2025, the newly installed capacity of ground-mounted, C&I and residential solar PV reached 308.0 GWac, 174.9 GWac and 96.2 GWac, amounted to 53.2%, 30.2% and 16.6% of the total market, respectively. Looking ahead, by 2030, the newly installed capacity of ground-mounted, C&I and residential solar PV are expected to reach 605.8 GWac, 262.6 GWac and 174.8 GWac, representing 58.0%, 25.2% and 16.8% of the total market, respectively.

INDUSTRY OVERVIEW

Market Size of the Global Solar PV Inverter Industry

Benefiting from the continuous expansion of global solar PV applications, global solar PV inverter shipments increased from 210.4 GWac in 2021 to 682.1 GWac in 2025, representing a CAGR of 34.2%. In 2025, solar PV inverter shipments in China, Asia-Pacific (excluding China), the Americas and Europe accounted for 52.5%, 17.9%, 12.1% and 12.8% of the global total, respectively. By 2030, global solar PV inverter shipments are expected to reach 1,327.5 GWac, with a CAGR of 14.2% from 2025 to 2030. Growth in the solar PV inverter market is being driven by both new installations and replacement demand from existing solar PV power stations. By 2030, replacement demand is projected to account for around 12% of total inverter shipments.

Global Solar PV Inverter Shipments by Major Countries and Regions, 2021-2030E



Source: National Energy Administration of China, IEA, SEIA, Frost & Sullivan

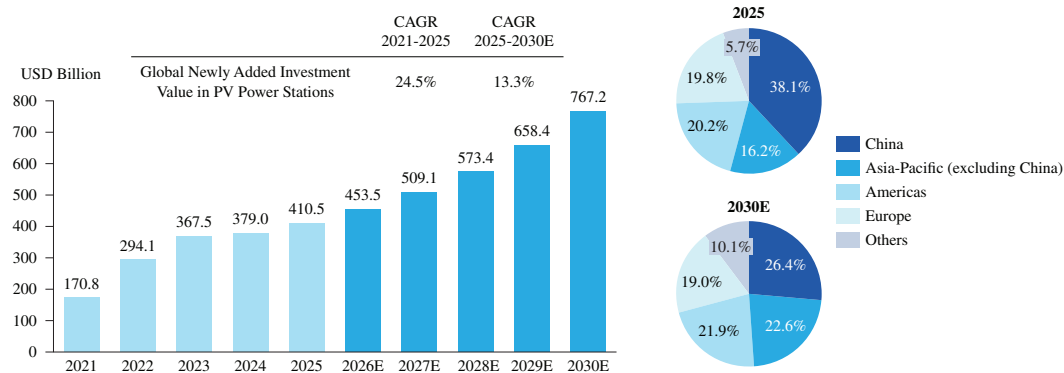
Solar PV inverters can also be categorized by application into ground-mounted, C&I, and residential segments, tailored to meet different scales, load profiles and installation environments. In 2025, the shipment of ground-mounted, C&I and residential PV inverters reached 363.5 GWac, 204.6 GWac and 114.1 GWac, amounted to 53.3%, 30.0% and 16.7% of the total market, respectively. By 2030, the shipment of ground-mounted, C&I and residential PV inverters are expected to reach 771.2 GWac, 332.1 GWac and 224.2 GWac, representing 58.1%, 25.0% and 16.9% of the total shipment, respectively.

INDUSTRY OVERVIEW

Market Size of the Global Solar PV Power Station Investment and Development

With the deepening commitment of major global economies to carbon neutrality, the scale of global clean energy investments and developments continues to expand. The global newly added investment value in solar PV power stations surged from USD170.8 billion in 2021 to USD410.5 billion in 2025, achieving a CAGR of 24.5%. It is projected that global newly added investment value in solar PV power stations will reach USD767.2 billion by 2030, at a CAGR of 13.3% from 2025. The global market for new investments in PV power stations is also relatively concentrated. As a leading solar PV power station developer in China, our Group continues to lead the industry through ongoing technological development and international market expansion.

Global Newly Added Investment Value in PV Power Stations by Major Countries and Regions, 2021-2030E



Sources: China Photovoltaic Industry Association (CPIA), S&P, New Energy Power Investment and Financing Alliance, Frost & Sullivan

Competitive Landscape of the Global Solar PV Inverter Industry

The global solar PV inverter market is highly concentrated. In terms of shipment volume, the top five companies together accounted for a market share of 63.9% in 2024. Leading players continue to strengthen their advantages in technological development, supply chain integration and global customer networks. Among them, our Group accounted for a market share of 25.2% of global solar PV inverter shipments in 2024, while maintaining a leading position in the PV inverter industry for ten consecutive years.

INDUSTRY OVERVIEW

Ranking of Global Solar PV Inverter Providers by Shipments, 2024

Ranking	Company Name	Shipment Volume (GWac)	Market Share in 2024 by Shipment Volume
1	Our Group	147.0	25.2%
2	Company A	145.0	24.8%
3	Company B	28.5	4.9%
4	Company C	28.0	4.8%
5	Company D	25.1	4.2%
Top 5		373.6	63.9%

Source: Annual Reports of Companies, Frost & Sullivan

Notes:

1. Company A was founded in 1987 and is headquartered in China. It primarily engages in information and communications technology solutions and has expanded into solar PV inverters and related energy equipment. Its solar PV inverter business is mainly present across China, the Asia-Pacific region (excluding China), Europe, and Latin America.
2. Company B was founded in 2011 and is headquartered in China. It specializes in the R&D and manufacturing of solar PV inverters, energy storage systems and smart energy management systems. Its solar PV inverter business is primarily focused on markets in Europe and Latin America.
3. Company C was founded in 2005 and is headquartered in China. Listed on the Shenzhen Stock Exchange, it provides solar PV power generation, solar PV inverters and engineering support and operation services for wind power projects. Its business portfolio is mainly concentrated in the Asia-Pacific region (excluding China) and Latin America.
4. Company D was established in 2012 and is headquartered in China. It is listed on the Shenzhen Stock Exchange and focuses on the research, development, manufacturing and sale of power electronics products, with offerings including solar PV inverters, energy storage converters and related systems. Its solar PV inverter segment primarily relies on demand from China and the Asia-Pacific region (excluding China).

Entry Barriers of the Global Solar PV Inverter Industry

The solar PV inverter industry, both globally and across major countries and regions, features significant entry barriers, mainly in terms of technology, customer resources, brand and bankability.

- **Technology Barrier:** Solar PV inverters involve multiple key technical areas, including high-efficiency power conversion, wide voltage range adaptation and grid-forming technologies. Their reliability is highly dependent on long-term R&D investment and technological accumulation. In particular, under the next-generation power system, inverters need to be equipped with grid-forming capabilities such as microgrid control and dynamic frequency response to ensure stable operation in complex grid environments.

INDUSTRY OVERVIEW

- **Customer Resource Barrier:** Investors in solar power stations and system integrators tend to choose suppliers with extensive project experience and reliable delivery capabilities. For ground-mounted solar power stations, customers typically focus on inverters’ scalability, reliability and long-term O&M support. In distributed solar projects, customers place greater emphasis on inverters’ flexibility, modular design and rapid responsiveness.
- **Brand and Bankability Barrier:** Although solar PV inverters account for a smaller share of project costs compared with solar modules, they are critical to overall grid connection and power generation performance. The brand value and market reputation of inverter providers directly influence customer trust and the bankability of projects.

OVERVIEW OF THE GLOBAL ENERGY STORAGE INDUSTRY

Introduction of Energy Storage Industry

As the proportion of intermittent and volatile renewable energy sources such as solar PV and wind power rises steadily in connection with electricity generation, energy storage technology is becoming the crucial component of integrated generation — grid — load — storage power systems. This is because it can convert electricity into other forms of energy for storage, providing controllable charging or discharging and bidirectional regulation capability within the power system. Among these technologies, lithium battery energy storage systems (ESS) have emerged as one of the most mainstream solutions. Leveraging the characteristics of high energy density, high efficiency and the rapid response of lithium batteries, lithium battery ESS are widely applied in various scenarios, including peak shaving, frequency regulation, renewable energy grid integration, grid-forming energy storage, behind-the-meter user-side energy storage, emergency backup power, etc.

The upstream of the energy storage industry value chain mainly includes key components such as battery cells, energy storage converters, energy management systems (EMS), battery management systems (BMS), and thermal management systems. The midstream primarily covers the integration, installation and commissioning of ESS. ESS integrators are responsible for combining the core components from the upstream of the industry chain into complete energy storage solutions. They focus on the design, integration and optimization of these systems, providing customized services for different application scenarios. The downstream covers the operation and maintenance of energy storage scenarios, including utility-scale, C&I, residential and off-grid applications.

INDUSTRY OVERVIEW

Market Drivers and Development Trends Analysis of the Global ESS Industry

Surge in Energy Storage Demand Driven by Features of Solar PV and Wind Power

The proportion of solar PV and wind power in electricity supply is continuously increasing. Global cumulative installed capacity of solar PV and wind power grew from 238.3 GW in 2010 to 3,926.5 GW in 2025. The cumulative installed capacity is projected to further increase to 9,431.2 GW by 2030, with a CAGR of 19.2% between 2025 and 2030. From 2010 to 2025, the cumulative installed capacity of solar PV power and wind power as a percentage of the cumulative installed capacity of global power mix has increased from 4.4% to 33.4%, with an expected further increase to 68.0% by 2050. ESS can solve the issues of grid-connection volatility and the utilization of renewable energy. They can also effectively cope with peak power demand, save on grid investment, and supplement grid frequency regulation capabilities, thereby effectively addressing the various challenges faced by renewable energy generation.

Economic Viability of Photovoltaic-Energy Storage Integration Emerging Gradually

Under the dual drivers of supportive policies and technological advancements, the economic viability of photovoltaic – energy storage (PV-ES) integration has become apparent. According to IRENA, the global LCOE for the PV-ES integration project was approximately USD0.117/kWh in 2025, which is significantly lower than the average global commercial electricity price of approximately USD0.170/kWh in 2025. By 2030, the global LCOE for the PV-ES integration project is expected to decrease to approximately USD0.090/kWh. Since the cost advantage of PV-ES integration will become even more pronounced, energy storage is transitioning to the essential component for renewable energy generation, creating a vast market for the energy storage industry. Integrators with core technologies, customer resources and strong brand presence will have a competitive edge, further optimizing system efficiency, reducing the LCOE of these integrated projects, and driving industry growth consistently.

Demand for Energy Storage Rises Significantly as Electrification Deepens

The global trend of electrification is accelerating, as end users in sectors like transportation and manufacturing industry, which have historically relied on fossil fuels, are switching to electricity, leading to a significant rise in power demand. At the same time, as part of the global energy transition, the pace of grid construction continues to lag behind. According to IEA, to meet countries’ climate targets, global investment in power grids demands to nearly double to more than USD600 billion per year by 2030. This follows over a decade of stagnated global investment. In this context, grid systems are facing increasingly stringent demands for safety and stability. ESS serve as fast-responding and flexible power resources that can quickly provide power compensation and energy support when the grid experiences disturbances or faults, thus effectively dampening fluctuations and enhancing grid resilience.

INDUSTRY OVERVIEW

Diversified Applications of ESS

The core of building next-generation power system is to promote clean energy as the main source of power generation. This involves improving the electricity market system and driving the ecological transformation of the energy system while ensuring the flexibility and security of the power system. Based on the needs of building a next-generation power system, energy storage applications have expanded from the power generation side to the grid and user sides, creating a diversified application landscape. Grid-side ESS provides rapid reactive power support and black start capabilities during peak shaving and frequency regulation, maintaining the stable operation of the next-generation power system. User-side ESS, in conjunction with distributed solar PV, enhances the rate of self-generation and self-consumption. Concurrently, commercial applications and revenue models for energy storage are gradually maturing. Diversified market revenue channels, such as the electricity spot market and ancillary services market, are building an independent commercial value service system for energy storage, which is further driving the development of the energy storage market.

Continued Advancements in Energy Storage Technology

Progress in energy storage technology is propelling the energy storage industry toward a safer, more efficient and intelligent future. At the cell level, technological development such as large-capacity battery cells, solid-state batteries and sodium-ion batteries have significantly increased energy density and safety. Meanwhile, material and process optimizations have substantially extended the life cycle of ESS. At the system level, the overall technical standard of ESS continues to improve, primarily driven by the deep integration of the “3-in-1” integration of power electronics, electrochemical storage and grid interaction technology. The improvements also stem from enhanced grid support capabilities. The breakthrough in grid-forming technology allows ESS to become stable supporters of the grid, independently establishing voltage and frequency, thus greatly enhancing the grid’s anti-disturbance capability and reliability, making it a foundational technology for high-penetration, renewable energy integration. These technological trends collectively contribute to a monumental improvement in the comprehensive performance of energy storage systems, laying a solid foundation for the development of next-generation power system.

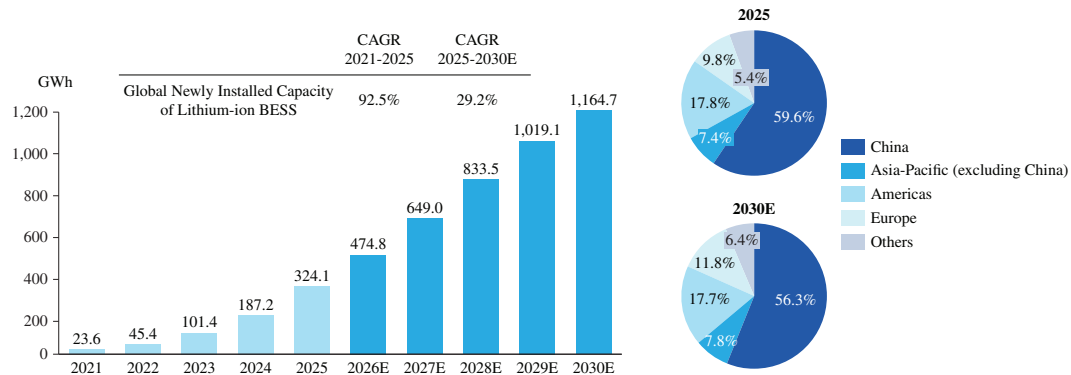
Market Size of the Global Lithium Battery ESS Industry

The global newly installed capacity of lithium battery ESS surged from 23.6 GWh in 2021 to 324.1 GWh in 2025, representing a CAGR of 92.5%. This growth was primarily driven by favorable policies globally, improved economics of PV-ES integration, increasing electrification, and breakthroughs in system technology. Looking ahead, the global lithium battery ESS newly installed capacity is expected to continue their growth trend, projected to reach 1,164.7 GWh by 2030. This represents a projected CAGR of 29.2% from 2025 to 2030. In particular, the growth expectations for lithium battery ESS are significant in emerging markets. Driven by energy expansion plans and supportive policies in countries like Chile, Brazil and Mexico, the newly installed capacity of lithium battery ESS in Latin America is

INDUSTRY OVERVIEW

projected to exceed 25 GWh by 2030, with a CAGR of 44.3% from 2025 to 2030. Due to the boom in applications such as microgrid storage, the newly installed capacity of lithium battery ESS in Africa is expected to surpass 20 GWh by 2030, with a CAGR of 41.7% from 2025 to 2030.

Global Newly Installed Capacity of Lithium Battery ESS by Major Countries and Regions, 2021-2030E



Source: IEA, China Energy Storage Alliance (CNESA), Frost & Sullivan

Notes: The aforementioned lithium battery ESS includes AC-side, DC-side and AC/DC integrated lithium battery ESS.

From 2021 to 2025, the global newly installed capacity of lithium battery ESS has been led by the utility-scale sector. These systems take on the function of accommodating renewable energy and provide ancillary services such as frequency regulation, peak shaving and backup capacity. In 2025, the global newly installed capacity of utility-scale, C&I, residential and off-grid lithium battery ESS are 269.4 GWh, 23.5 GWh, 30.1 GWh and 1.2 GWh, accounting for 83.1%, 7.2%, 9.3% and 0.4% of the global total, respectively. It is projected that by 2030, the global newly installed capacity for utility-scale, C&I, residential and off-grid lithium battery ESS will reach 940.9 GWh, 105.3 GWh, 112.4 GWh and 6.1 GWh, representing 80.8%, 9.0%, 9.7% and 0.5% in the total market, respectively.

Competitive Landscape of the Global ESS Industry

Shipment volumes of global lithium battery ESS reached 235.8 GWh in 2024. The global market for lithium battery ESS integrators is relatively concentrated, with the top five companies holding a combined market share of 43.3% in 2024. Leading companies are continually expanding their advantages in technical talent, customer resources and brand influence. Among these, our Group's shipment volume of global lithium battery ESS accounted for 11.9% in 2024.

INDUSTRY OVERVIEW

Ranking of Global Lithium Battery ESS Integrators by Shipment Volume, 2024

Ranking	Company Name	Shipment Volume (GWh)	Market Share in 2024 by Shipment Volume
1	Company E	31.4	13.3%
2	Our Group	28.0	11.9%
3	Company F	18.0	7.6%
4	Company G	13.0	5.5%
5	Company H	11.8	5.0%
Top 5		102.2	43.3%

Source: Disclosure of Listed companies’ annual reports, CNESA, Infolink, Frost & Sullivan

Notes:

1. The above ranking includes global lithium battery ESS integrators primarily focusing on AC-side lithium battery ESS.
2. Established in 2003, Company E is headquartered in the United States and is listed on the NASDAQ stock exchange. It primarily provides lithium battery ESS solutions for customers across the utility-scale, residential and C&I sectors and continues to develop its energy storage integration business. The company’s core business covers electric vehicles, energy storage, and smart services, with its key markets mainly spanning Americas, Europe, and the Asia-Pacific region.
3. Established in 1959, Company F is headquartered in China and has full-chain R&D and production capabilities for lithium battery ESS, covering components from battery packs, BMS, PCS and EMS to system integration. The company’s core business covers multiple fields such as rail transit, energy storage, and new materials, with its primary market focused in China.
4. Established in 2018, Company G is headquartered in the United States and is listed on the NASDAQ stock exchange. It provides modular and scalable lithium battery ESS integration services for various customers, including those in the utility-scale, residential and C&I sectors. The company’s core business covers energy storage products and services, as well as digital applications for renewable energy. Its primary market is mainly in the Americas.
5. Established in 2011, Company H is headquartered in China and is listed on the Shanghai Stock Exchange. It offers global clients a comprehensive portfolio of lithium battery ESS and complete, one-stop integrated solutions. The company’s core business is the research, development, production, and sales of lithium battery ESS. Its primary markets are mainly in China and Europe.

INDUSTRY OVERVIEW

Entry Barriers of the Global Energy Storage Industry

Significant entry barriers exist in the global and major national/regional energy storage industries, primarily including technology, customer resources, service expertise, brand and bankability.

- ***Technology Barrier:*** Lithium battery ESS integration involves the cross-disciplinary fields including electrochemistry, and is becoming increasingly important in supporting the grid through grid-forming technology requiring the BESS integrators to form an in-depth understanding of electricity market mechanisms and standards during product design and installation. The growing deployment of energy storage systems complicated their impact on the grid. Some markets require pre-simulation of a storage system’s potential effects on the local grid, covering key performance areas such as power flow, stability and black start capabilities, consequently requiring robust R&D capability backed by a highly experienced team.
- ***Customer Resource Barrier:*** The established BESS integrators enjoy extensive project experience, reliable product performance and stable long-term supply capacity, enabling them to maintain more lasting cooperative relationships with customers such as energy storage project investors and grid operators.
- ***Service Expertise Barrier:*** The deployment and application of energy storage systems require highly complex expertise. Mature energy storage system integrators, with their global presence, can deeply understand the diverse needs of customers in different regions and provide timely, precise, high-quality support and services.
- ***Brand and Bankability Barrier:*** Energy storage projects have strict safety and reliability requirements and the market is highly sensitive to brand reputation. Leading lithium battery ESS integrators leverage their extensive project experience to build widespread brand recognition. The safety and reliability of their products are proven by extensive data and past experience, which increases customer trust and the bankability of projects.

OVERVIEW OF THE GLOBAL WIND POWER INDUSTRY

Introduction of Wind Power Industry

Wind power converts the kinetic energy carried by wind into electrical energy, serving as an important component of renewable energy. The wind power converter transforms the unstable electricity generated by wind turbines into stable, grid-compliant power with fixed frequency and voltage. It is an indispensable part of wind turbine generators and its quality directly impacts the overall efficiency of the turbine and the operational stability of the wind power stations.

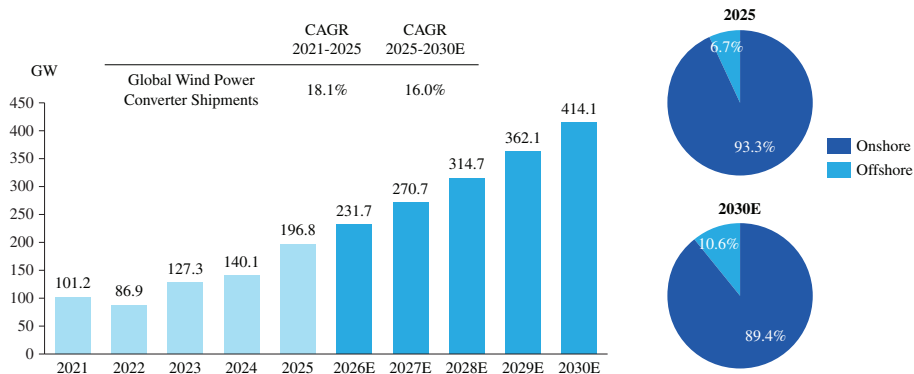
INDUSTRY OVERVIEW

The upstream of the wind power industry value chain mainly includes the production and supply of raw materials and critical components for wind turbines, such as wind power converters, towers, blades, gearboxes and generators. The midstream involves the design and manufacture of complete wind turbine systems, as well as the construction of wind power stations. The downstream covers electricity generation, as well as the operation and maintenance of onshore and offshore wind power farms.

Market Size of the Global Wind Power Converter Industry

The shipment of global wind power converters grew from 101.2 GW in 2021 to 196.8 GW in 2025, representing a CAGR of 18.1%, and is expected to further increase to 414.1 GW in 2030, with a CAGR of 16.0%. Wind power converters can be categorized into onshore and offshore applications. As offshore wind power accelerates towards large-scale, the proportion of offshore wind power converter is expected to increase from 6.7% in 2025 to 10.6% in 2030. With the continuous increase in newly installed wind power capacity, wind power converters, are experiencing sustained growth in demand. Meanwhile, as early wind power farms gradually enter the renovation and upgrade stage, replacement demand for wind power converters is also contributing stable incremental growth to the market. By 2030, new demand and replacement demand are expected to account for approximately 92% and 8%, respectively, of the global wind power converter market.

Global Wind Power Converter Shipments by Application, 2021-2030E



Source: IEA, IRENA, GWEC, EWEA, CWEA, Frost & Sullivan

INDUSTRY OVERVIEW

Competitive Landscape of the Global Wind Power Converter Industry

In 2024, global wind power converter shipment volume reached 140.1 GW. By shipment volume, the top five global wind power converter providers accounted for 70.6% of the market share in 2024, with our Group holding 31.4%. In the wind power converter industry, our Group has maintained its leading position for three consecutive years.

Ranking of the Global Wind Power Converter Providers, by Shipments, 2024

Ranking	Company Name	Shipment Volume (GW)	Market Share in 2024 by Shipment Volume
1	Our Group	44.0	31.4%
2	Company I	27.5	19.6%
3	Company J	15.5	11.1%
4	Company K	6.5	4.6%
5	Company L	5.5	3.9%
Top 5		99.0	70.6%

Source: Annual Reports of Listed Companies, Frost & Sullivan

Notes:

1. Company I, founded in 2007 and headquartered in China, is listed on the Shanghai Stock Exchange. The company is engaged in the research and development, production, sale, and services of wind power generation products, PV power generation products, energy storage products and hydrogen power supply products. Its wind power converter business offers a wide range of wind power converters and holds a leading position in the Chinese market, supported by extensive project experience and proven product performance.
2. Company J, founded in 1981 and headquartered in Denmark, is a non-listed company specializing in power and cooling solutions for the renewable energy industry. Its products include power converters and control systems, as well as cooling solutions and service and monitoring systems. Its wind power converter business provides customers with customized, cost-effective power conversion solutions that enhance power density, efficiency, and modularity while optimizing performance and reducing total cost of ownership (TCO).
3. Company K, founded in 2016 and headquartered in the United States, is listed on the New York Stock Exchange. The company provides energy management, thermal management, IT systems, infrastructure solutions and related services, and offers wind power converters and related software services in the wind energy sector. Its wind converters have been widely deployed in major wind power markets worldwide, covering both offshore and onshore wind sectors, and the company has established manufacturing facilities, service offices, and spare parts centers across Europe and Asia.
4. Company L, founded in 1972 and headquartered in Spain, is a non-listed company focused on the research and development of power transmission technologies. Its products include power converters, electric vehicle charging stations, generators and traction motors. Its wind power converter business offers low- and medium-voltage power converters specifically designed to meet the most stringent grid codes, and it operates manufacturing facilities across four continents.

INDUSTRY OVERVIEW

OVERVIEW OF THE GLOBAL GREEN HYDROGEN INDUSTRY

Introduction of Green Hydrogen Industry

Hydrogen can be categorized into gray hydrogen, blue hydrogen and green hydrogen based on its sources. Currently, gray hydrogen, the most common type, is produced from fossil fuels (such as natural gas and coal) or industrial by-products. Blue hydrogen is derived from fossil fuels with the integration of carbon capture, utilization and storage (CCUS) technologies, enabling low or zero carbon emissions during production. Green hydrogen is produced via water electrolysis powered by renewable energy sources such as solar, wind power and hydropower. Hydrogen serves as a versatile clean energy carrier with downstream applications spanning multiple industries, including chemicals, metallurgy and transportation.

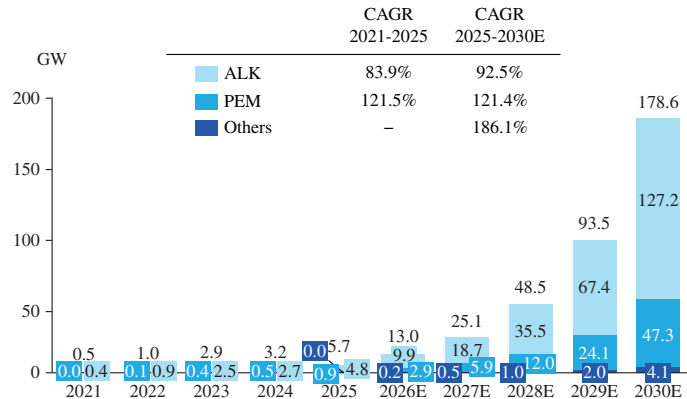
Green hydrogen production relies on water electrolysis technology, with the electrolysis cells as the core component of the value chain, encompassing critical parts such as electrodes, diaphragms, bipolar plates and associated auxiliary systems. The performance of electrolysis cells depends on the materials and structure of these key components, while auxiliary systems ensure stable and efficient operation, ultimately producing high-purity hydrogen. Water electrolysis is primarily divided into four types, each based on different electrolyte membrane materials: Alkaline Water Electrolysis (ALK), Proton Exchange Membrane Electrolysis (PEM), Solid Oxide Electrolysis (SOEC) and Anion Exchange Membrane Electrolysis (AEM).

Market Size of the Global Electrolysis Cell Industry

In recent years, with the continuous growth in hydrogen production and consumption, the global shipment volume of electrolysis cells surged from 0.5 GW in 2021 to 5.7 GW in 2025. Driven by advancements in water electrolysis technology and the ongoing push by major global economies toward carbon neutrality, the global shipment volume of electrolysis cells is projected to reach 178.6 GW by 2030. In 2025, ALK electrolysis cells dominated the market, accounting for over 80% of total shipments. Meanwhile, PEM electrolysis cells, benefiting from advantages such as high current density and high-purity hydrogen production, are expected to experience rapid growth, with their share of by shipment volume projected to reach over 26% by 2030.

INDUSTRY OVERVIEW

Market Size of the Global Electrolysis Cell Industry by Shipment Volume, 2021-2030E



Source: IEA, National Energy Administration of China, Hydrogen Branch of the China Industrial Development Promotion Association, GGII, China Hydrogen Alliance, Frost & Sullivan

Note: The shipment volume of electrolysis cells is projected based on the assumption that national policy targets are achieved.

OVERVIEW OF THE GLOBAL NEW ENERGY VEHICLE INDUSTRY

Introduction of New Energy Vehicle Industry

As the automotive industry accelerates its transition to electrification, the global NEV sector and its power conversion systems are entering a period of rapid development. The power conversion system of NEV primarily includes electric control, power supply and electric vehicle (EV) charging equipment.

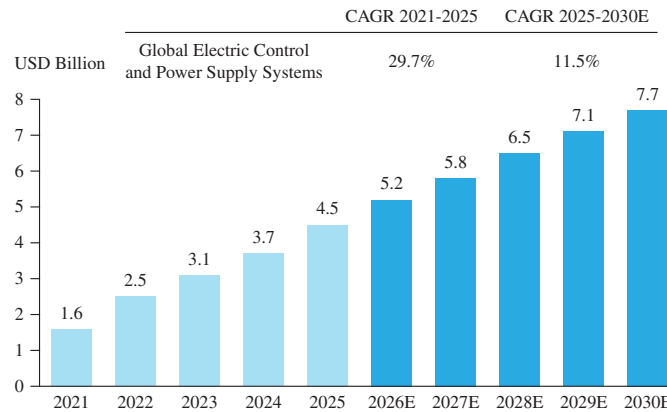
The upstream segment of the NEV industry mainly includes core components and equipment suppliers such as power batteries, electric control, power supply, EV charging equipment, automotive electronics and related raw materials. The midstream segment involves NEV manufacturing, while the downstream segment comprises sales and service networks for NEVs, including diversified value-added services such as charging and battery swapping.

Market Size of the Global Electric Control and Power Supply System Industries

With the continuous increase in the penetration rate of NEV, the demand for electric control and power supply systems for NEV has also correspondingly grown. From 2021 to 2025, the global market size for electric control and power supply systems for NEV grew from approximately USD1.6 billion to USD4.5 billion, with a CAGR of 29.7%. It is expected that by 2030, the global market size of the NEV electric control and power supply industry systems will reach USD7.7 billion, with a projected CAGR of 11.5% from 2025.

INDUSTRY OVERVIEW

Market Size of the Global Electric Control and Power Supply System Industry by Revenue, 2021-2030E

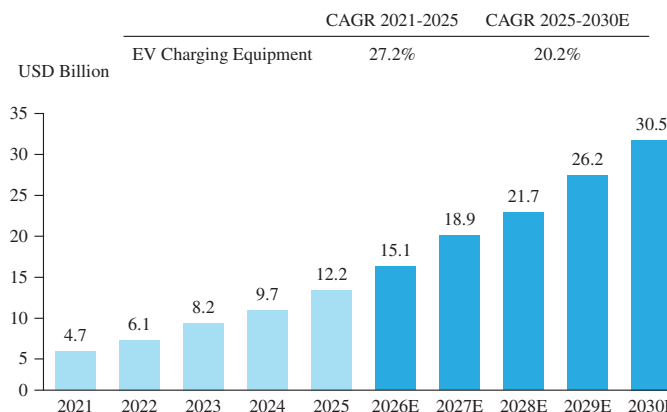


Sources: China Association of Automobile Manufacturers (CAAM), IEA, European Automobile Manufacturers' Association (ACEA), International Council on Clean Transportation (ICCT), Frost & Sullivan

Market Size of the Global EV Charging Equipment Industry

The global construction of NEV infrastructure continues to advance, with the EV charging equipment market expanding rapidly. In 2021, the global EV charging equipment market size was approximately USD4.7 billion. By 2025, the global EV charging equipment market size is expected to reach about USD12.2 billion, with a CAGR of 27.2% from 2021. In the future, driven by the large-scale deployment of charging networks and the advancement of ultra-fast charging technology, the EV charging equipment market will continue to grow rapidly. It is projected that by 2030, the market size of global EV charging equipment will reach USD30.5 billion, with an expected CAGR of 20.2% from 2025.

Market Size of the Global EV Charging Equipment Industry by Revenue, 2021-2030E



Sources: CAAM, China Electric Vehicle Charging Infrastructure Promotion Alliance (EVCIPA), IEA, ACEA, International Council on Clean Transportation (ICCT), Frost & Sullivan

INDUSTRY OVERVIEW

OVERVIEW OF THE GLOBAL AIDC POWER SUPPLY INDUSTRY

Introduction of AIDC Power Supply Industry

AIDC power supplies are high-performance power systems specifically designed for AI data centers to ensure stable operation of high-power computing loads. Traditional power supply architectures face limitations in terms of energy efficiency, stability and scalability. In contrast, AIDC power architectures meet the high-power density required for AI computing while reducing energy conversion steps and minimizing power losses, thereby providing reliable support for AI workload deployment.

From a power architecture perspective, AIDC power supplies can be divided into strong-current and weak-current sides. The strong-current side covers power supply links outside the cabinet, including solutions such as HVDC (high-voltage direct current), which completes power transformation on high-voltage platforms. The weak-current side focuses on the in-cabinet power supply, where, after entering through the PDU (power distribution unit), the system progressively performs rectification and voltage step-down to deliver power to AI chips.

Market Drivers and Development Trends Analysis of the Global AIDC Power Supply Industry

Rising Computing Power Demand and Capital Investment Driving Industry Expansion

With the rapid growth in demand for AI model training and inference, the demand for global computing power is rising exponentially. Global AI leaders and large-scale cloud service providers are accelerating the deployment of hyperscale high-power data centers. It is estimated that global data center capital expenditures will grow from approximately USD585 billion in 2025 to over USD3 trillion by 2030. AIDC is developing toward larger scale and higher power density, with power rack density increasing from below 10 kW to over 120 kW. Accordingly, AIDC power supply is shifting toward the HVDC power supply structure, including high-performance SST systems, which ensures high efficiency, high reliability, compact layouts and reduced cost.

Transition Toward a Green AIDC Power Supply

With the progression of global carbon neutrality and sustainable development goals, AIDC is accelerating its transition toward greener solutions. Given the massive power consumption of AIDC workloads, which represent a significant incremental load on the grid, AIDC increasingly relies on low-cost renewable energy, which not only reduces operating costs but also mitigates the stress on conventional power grids. Governments are also promoting greener AIDC power supply through efficiency standards. For example, China released the “Special Action Plan for Green and Low-Carbon Development of Data Centers” (《數據中心綠色低碳發展專項行動計劃》) in 2024, which mandates that by the end of 2025, the national

INDUSTRY OVERVIEW

average Power Usage Effectiveness (PUE) of data centers must fall below 1.5. Against this backdrop, integrated solutions for direct connection to green power will enable AIDC to achieve greener and smarter development, fostering the construction of sustainable digital infrastructure.

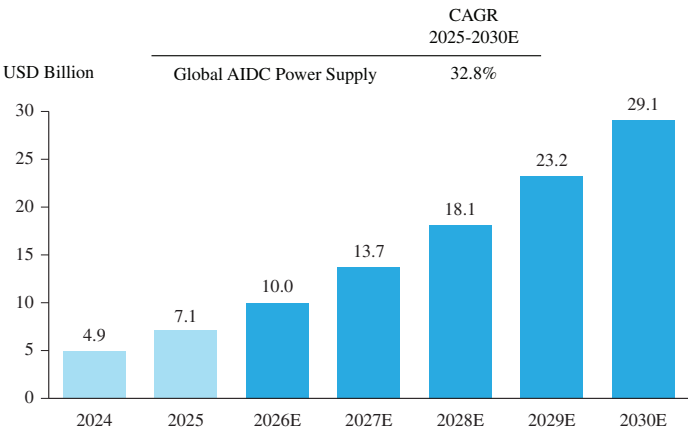
Leading Power Supply Players Shaping Industry Growth

As AIDC power supply models are continuously emerging, leading power supply players are accelerating their investments in AIDC power supply, continuously developing next-generation AIDC power supply products and solutions. Leveraging their mature R&D and system integration capabilities, large-scale manufacturing and efficient supply chain management, strong brand influence and extensive customer networks, these power supply giants hold an early mover advantage in the AIDC power supply sector. Their in-depth technical expertise in full-range power electronic conversion and SST technologies positions them to drive sustained growth and transformation in the AIDC power supply industry.

Market Size of the Global AIDC Power Supply Industry

Driven by the expansion of AIDC computing demand, the global AIDC power supply market is entering a rapid growth phase. The market was valued at approximately USD7.1 billion in 2025 and is expected to reach around USD29.1 billion by 2030, representing a CAGR of 32.8%. AIDC power supplies are playing an increasingly critical role in supporting the operation of hyperscale AI clusters.

Market Size of the Global AIDC Power Supply Industry by Revenue, 2024-2030E



Source: IEA, International Data Corporation (IDC), Frost & Sullivan

INDUSTRY OVERVIEW

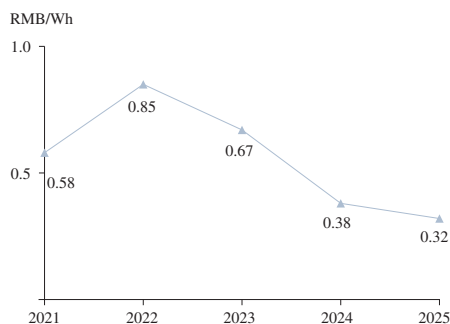
RAW MATERIAL COST ANALYSIS

In the clean power industry, the main raw material used in energy storage systems is lithium batteries, with lithium iron phosphate (LFP) batteries being the current mainstream. Crystalline silicon PV modules are the core components of PV power generation systems, converting light energy into direct current electricity based on the photovoltaic effect.

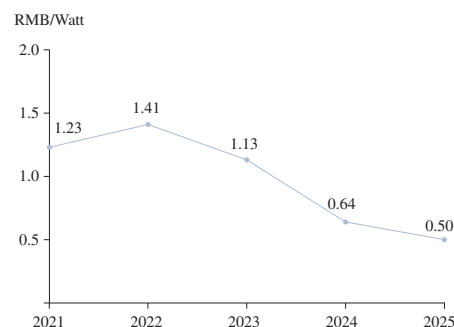
Driven by the rising prices of key raw materials such as lithium, the rapidly growing demand from downstream applications such as NEV and ESS, along with supply chain constraints, the price of LFP battery cells increased from RMB0.58/Wh in 2021 to RMB0.85/Wh in 2022. Subsequently, due to declining raw material prices, continuous capacity expansion, advancements in manufacturing processes and more rational downstream procurement patterns, the average price of LFP battery cells decreased continuously to RMB0.32/Wh in 2025. In 2026, as the industry reaches a consensus to move away from excessive price competition, coupled with the stabilization and rebound of raw material costs and the further release of demand from the energy storage market, the average price of LFP battery cells in 2026 is expected to exhibit a moderate recovery, with projected fluctuations ranging from 5% to 15%. Nevertheless, such price trend may be influenced by various economic and industrial factors and thus may not hold under certain circumstances.

The average price of crystalline silicon PV modules rose from RMB1.23 per watt in 2021 to RMB1.41 per watt in 2022, before dropping to RMB0.50 per watt in 2025. The decline is primarily due to reduced upstream polysilicon and silicon wafer costs, advancements in manufacturing technology and economies of scale. In 2026, influenced by adjustments in China’s export tax rebate policies, price increases in auxiliary materials such as silver and aluminum, and a rise in silicon material prices, PV module prices have shown clear signals of a counter-trend rebound. Consequently, the average price of crystalline silicon PV modules in 2026 is expected to fluctuate within a range of 5% to 15%. Nevertheless, such price trend may be influenced by various economic and industrial factors and thus may not hold under certain circumstances.

**Average Price of LFP
Battery Cells (China)**



**Average Price of Crystalline
Silicon PV Modules (China)**



Source: Gaogong Industrial Institute (GGII), iFind, Wind, BAIFNO, Frost & Sullivan