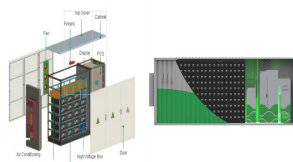
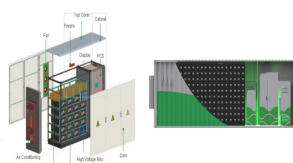


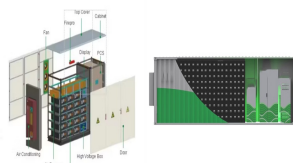
# ENERGY STORAGE INVERTER SHIPMENT



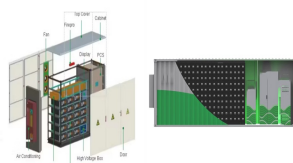
Are energy storage inverters the future of energy storage? Shipments of energy storage inverters more than doubled in 2020 to reach over 11 GW. As the world's major economies increasingly unite in moving faster toward an energy transition, and governments look to stimulate growth in their economies, renewable energy and energy storage stand to benefit.



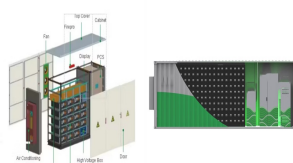
Which PV inverter vendors shipments grew the most in 2022? The top five vendors ??? Huawei,Sungrow,Ginlong Solis,Growatt,and GoodWe ??? shipped more than 200 GWac and accounted for 71% of total global PV inverter shipments in 2022,growing 8% from 2021. Huawei???'s shipments saw a significant increase of 83% in 2022 compared to 2021,while Sungrow???'s shipments expanded 56% in the same period.



Which PV inverter vendors shipped the most GWAC in 2022? Wood Mackenzie noted that the top five vendors shipped more than 200 GWac and accounted for 71% of total global PV inverter shipments in 2022,up 8% from 2021. The report notes that 2022 top vendor Huaweishipment increased 83%. Ginlong Solis posted growth of 86%. For the eighth consecutive year,the top two vendors were Huawei and Sungrow.

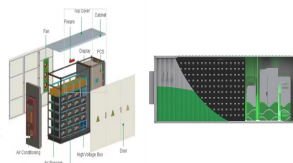


What is the global demand for PV inverters in 2022? The global PV demand of 201 gigawattalternating current (GWac) in 2022 contributed to 48% growth year-over-year for PV inverters. In terms of inverter shipments,strong growth in Europe,Asia Pacific,and the United States where government support bolstered to meet clean energy goals led to a total of 333 GWac of global shipments in 2022.

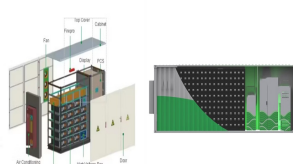


What is the global PV inverter market share? Global PV inverter shipments grew by 56% to 536 gigawatts alternating current (GWac) in 2023, reflecting a strong year for the broader solar industry. The top 10 global PV inverter vendors accounted for 81% of the market, according to Wood Mackenzie???'s ??? Global solar inverter and module-level power electronics market share 2024??? report.

# ENERGY STORAGE INVERTER SHIPMENT



Why did inverter shipments increase in 2022? In terms of inverter shipments, strong growth in Europe, Asia Pacific, and the United States where government support bolstered to meet clean energy goals led to a total of 333 GWac of global shipments in 2022. The industry saw this renewed increase in shipments as the pandemic-related chip shortage and other supply chain challenges eased in 2022.



Although energy storage inverters accounted for only 8.81% of GoodWe's total inverter shipments in the first half of this year, their performance is still expected to grow, both for the company



Sineng Electric is the global leading supplier of a comprehensive product portfolio including PV inverters, energy storage inverters, and power quality products. Sineng Electric Announces First Shipment of PCS to the U.S. for a 140.8MW Energy Storage Project. Learn More. September 25, 2024.



Although energy storage inverters accounted for only 8.81% of GoodWe's total inverter shipments in the first half of this year, capital markets and the company itself predict this to grow



LS Energy Solutions is a pioneer in energy storage with a proven portfolio of storage solutions. Safety. Our philosophy is safety by design. With more than 1 GW of incident-free operations, you can trust our safety record and expertise. Reliability.

# ENERGY STORAGE INVERTER SHIPMENT



TAX FREE  
SUNGROW  
PCS



Sungrow, the global leading PV inverter and energy storage system provider, secured the top spot in the 2023 global PV inverter shipment rankings according to S&P Global Commodity Insights



Power Conversion System

Single stage three level modulation  
High speed IGBT to reduce battery  
series and parallel connection



PCS shipments to front-of-the-meter (FTM) energy storage siting accounted for over 50% of total global shipments over the forecast period (2023-2030), with the United States and China mainland accounting for the majority of these shipments.



100-430kVh  
230-400V

200kWh  
Battery Cluster

Accelerate the move to clean energy with low-carbon intelligence connecting assets, markets, and companies. Solar & Energy Storage Summit 23-24 April 2025, Denver Register now. Browse Events Europe took up 23% of the global market with 50,770 MWac inverter shipment. The market increased its inverter shipment capacity by over 17,000 MWac



PREPARED OUTDOOR CABINET

ALUMINUM

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OUTDOOR MODUL CABINET

Huawei, Sungrow, Ginlong, Solis, Growatt, and GoodWe emerged as the top solar inverter vendors in 2022, driving a significant portion of the year's 330 GW (AC) of global inverter shipments.



The global energy storage inverter shipment is forecast to surge at a compound annual growth rate of 38 percent, to 4.5 gigawatts in 2020, according to IHS Markit (Nasdaq: INFO), a world leader in critical information, analytics and solutions. Prices for energy storage inverters will continue to fall an average of 13 percent per year, from 2016

# ENERGY STORAGE INVERTER SHIPMENT



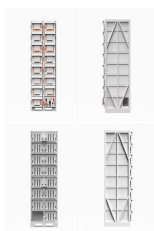
4 to 25 kW solar PV per 20-foot shipping container; 7.4 to 148 kWh LFP battery storage per container; 6.8 to 27.2 kW (single phase) or 20 kW (three phase) The Lion Sanctuary System is a powerful solar inverter and energy storage system that combines Lion's efficient 8 kW hybrid inverter/charger with a powerful Lithium Iron Phosphate 13.5



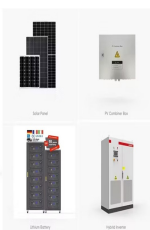
HEFEI, China, July 11, 2024 /PRNewswire/ -- Sungrow, the global leading PV inverter and energy storage system provider, secured the top spot in the 2023 global PV inverter shipment rankings



No.1 PV Inverter Global Shipment. Years in the Solar Industry. 00. Efficiency PV Inverters. 00 %+ Countries with Sungrow Installations. 000 + Largest PV keeping you updated on the latest industry technologies and trends in terms of solar inverters and energy storage, etc. EVENTS . We are attending the world's hottest solar and energy



In addition to our industry-leading PV inverters and battery energy storage systems, Sungrow offers a complete range of solutions to support the operation and maintenance of these components, all within your budget. NEW PRODUCTS. SG6250/6800HV-MV. 3-level technology, inverter max. efficiency 99%.



Solar Energy ??? European Inverter and Energy Storage Market OCTOBER 18, 2022. Enphase, Chinese OEMs Expected to Gain Inverter Share Enphase was most frequently cited (five mentions) as an inverter manufacturer expected to gain share during 2H22 because of rising demand for microinverters, as well as slightly looser supply



A leading manufacturer of microinverters, Enphase also provides AC-coupled energy storage solutions in two different sizes: the 3.36 kilowatt-hour (kWh) Encharge 3 and the 10.08 kWh Encharge 10, which is similar in size to the two most widely installed batteries available today

# ENERGY STORAGE INVERTER SHIPMENT

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??? the LG Chem RESU 10H and the Tesla Powerwall 2. When combined with ???

# ENERGY STORAGE INVERTER SHIPMENT



PCS shipments to front-of-the-meter (FTM) energy storage siting accounted for over 50% of total global shipments over the forecast period (2023-30), with the United States and China mainland accounting for the majority of these shipments.



The Company is recognized as the world's No. 1 on PV inverter shipments (S&P Global Commodity Insights) and the most bankable Asian energy storage company (BloombergNEF). Its innovations power clean energy projects in over 170 countries, supported by a network of 490 service outlets guaranteeing excellent customer experience.



Functionally, solar inverters mainly serve to convert DC electricity produced by solar photovoltaic arrays into AC electricity; while energy storage inverters possess additional functions over solar inverters, including battery management functions such as charge and discharge control, energy storage, and release.



The top 10 Chinese companies in AC-coupled energy storage solutions shipment volume for 2023 include: Sungrow; CRRC Zhuzhou Institute; Envision Energy; XYZ Storage; Zhongtian Technology (ZTT) Shandong Electrical Engineering & Equipment Group (SDEE) Top 5 inverter companies dominate 85% of Q1 2024 bids.



Sineng Electric is the global leading supplier of a comprehensive product portfolio including PV inverters, energy storage inverters, and power quality products. Sineng Electric Announces First Shipment of PCS to the U.S. for a 140.8MW Energy Storage Project. Learn More. September 14, 2024.



HEFEI, July 11, 2024 - Sungrow, the global leading PV inverter and energy storage system provider, secured the top spot in the 2023 global PV inverter shipment rankings according to ???

# ENERGY STORAGE INVERTER SHIPMENT



WUXI, China, July 10, 2024 /PRNewswire/ -- Sineng Electric, a global leading PV+ESS solution provider, ranks No.4 worldwide in PV inverter shipments for 2023. The prestigious recognition from S&P



overview. Battery Energy Storage Solutions: our expertise in power conversion, power management and power quality are your key to a successful project Whether you are investing in Bulk Energy (i.e. Power Balancing, Peak Shaving, Load Levelling???), Ancillary Services (i.e. Frequency Regulation, Voltage Support, Spinning Reserve???), RES Integration (i.e. Time ???



This is a hybrid solar + storage PV inverter, battery inverter/charger and Full Energy Storage System For Grid tied and backup residential. It also protects your supply chain with 100% domestic critical materials and simple, robust shipping from 14 sales and distribution offices in North America and distributors in 60+ countries.



As the energy storage market rises, and as prices for storage continues to fall, more than 900 MW of energy storage grid-tied inverters were shipped globally in 2015. The global energy storage inverter shipment is forecast to surge at a compound annual growth rate of 38 percent, to 4.5 GW in 2020, according to IHS Markit, a world leader in



The Chinese conglomerate and inverter maker shipped 2 GW of storage systems last year. In 2020, total PV inverter shipments totaled 41.7 GW, according to Huawei's smart PV business sector. Sungrow, another solar inverter giant maker, sold 47 GW of inverters in 2021, with 3 GWh of global shipment of energy storage system.



# ENERGY STORAGE INVERTER SHIPMENT

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Demand Side: Energy Storage Inverter Gross Margins Exceed Grid-Tied Units, Emerging as the Second Growth Curve for Inverters The actual installed capacity of European household energy storage systems in 2022 is 4.6GWh, but the shipment volume is as high as 9.8GWh, more than twice the former, causing the ending inventory to increase to 5