Solar Generator Market Assessment, By Grid Connectivity [On-grid, Off-grid], By Composition [Rechargeable Battery, Solar Inverter, Portable Solar Panels, Solar Charge Controller], By Energy Capacity [Less Than 40 KWH, 80 to 150 KWH, More Than 150 KWH], By End-user [Residential, Commercial, Utility], By Region, Opportunities and Forecast, 2017-2031F

Market Report | 2024-04-19 | 222 pages | Market Xcel - Markets and Data

AVAILABLE LICENSES:

- Single User License $4500.00
- Muti-User/Corporate Licence $5700.00
- Custom Research License $8200.00

Report description:

Global solar generator market size was valued at USD 501.3 million in 2023, which is expected to reach USD 965.64 million in 2031, with a CAGR of 8.54% for the forecasted period between 2024 and 2031.
Solar generators yield a variety of benefits such as providing automatic backup power during outages, utilizing surplus power stored in batteries, and being portable with fixed or mobile structures. Factors driving the growth of solar generator market include rapid technological advancements, increased awareness of renewable energy benefits due to climate change concerns, government incentives and tax relaxations for renewable resources, and the need for remote and off-grid power generation. Additionally, the market growth is attributed to the rising demand for sustainable energy sources, the need for backup power solutions, and rising awareness about sustainable living.
The rapid technological advancements are amplifying market growth by enhancing efficiency, reducing costs, and improving energy storage capabilities. Innovations such as advanced photoVoltaic Systems cells, smart grid integration, and energy management systems are driving market expansion. Additionally, the increasing adoption of clean energy solutions and government incentives for renewable energy contribute to the market's growth.
In July 2022, Anker introduced the Anker 555 Portable Power Station. It is a portable solar power generator with a high wattage ideal for outdoor enthusiasts and explorers. Its power station is equipped with a long-lasting Lithium-Iron Phosphate (LiFePO4) battery, similar to those seen in current long-range electric automobiles. Its 11 charging connectors allow it to store up to 1024Wh of electricity. Furthermore, the Anker 555 can charge cellphones, electric stoves, computers, string lights, camping lanterns, as

well as tiny appliances such as mini fridges for hours.

Portable Solar Panels are Proliferating the Market Growth

The growth of portable solar panels is driven by increasing awareness of renewable energy sources, rising demand for clean and sustainable power solutions, and government incentives supporting the utilization of solar panels. Portable solar panels are designed specifically for lightweight and easy transport, are widely used in outdoor activities, emergency power supply, and other applications, thereby fueling the expansion of the market.

In July 2023, Sego Innovations, founded by Brigham Young University graduates, developed an innovative portable solar panel that measures 19 by 19 cm, with a thickness of just 2.5 cm when folded. This 0.24 sqm hexagonal SunPower monocrystalline solar panel is capable of providing 25 watts of power under optimal sunlight conditions. The solar panels have been meticulously cut and connected to Printed Circuit Boards (PCBs) to ensure a durable design suitable for both travel and outdoor usage.

Solar Charge Controller and Inverters Are Enhancing the Market Growth

The prevalence of highly developed solar charge controllers and inverters is spearheading the market growth significantly. Factors driving the growth include the rapid increase in solar panel installations, the rise in electronic infrastructure for solar power technologies, and the increasing demand for solar charge controllers and inverters from various applications such as residential, commercial, and industrial solar power generation.

In June 2023, Morningstar launched a new line of solar charge controllers and off-grid inverters, including the GenStar DC Solar DC System Controller and SureSine pure sine-wave inverters, which are available through their global distribution network. The GenStar MPPT represents the flagship of Morningstar's new Integrated Series, while the new SureSine inverter series enables solar professionals to design systems that are all Morningstar, with no weak links in the component chain.

Utilization in Residential and Commercial Sectors to Cater Market Growth

The utilization of solar generators in residential and commercial sectors is expected to lead to myriad opportunities for market growth. The solar generator market has experienced robust growth in recent years, driven by increasing awareness about the environmental impact of conventional power sources and the need for sustainable alternatives. Moreover, the market is witnessing high demand from residential, commercial, and industrial sectors, with portable solar generators gaining popularity among outdoor enthusiasts and those living in remote areas.

As per the Department of New and Renewable Energy of India, solar water heaters powered by solar generators can save 70-80% of electricity or fuel expenditures in any application wherever steam is produced by utilizing a boiler or steam generator. By replacing a traditional water heater with the help of a solar water heating system, a residence may save 70-80% on energy or fuel expenditures. Moreover, solar water heaters are recognized to have the shortest payback period of 2 to 4 years, depending on usage and fuel replacement.

North America Leads the Solar Generators Market

North America comprehensively dominated the market due to favorable government policies, significant investments in renewable energy and advanced technological infrastructure. Moreover, the region's commitment to reduce carbon emissions and promote sustainable energy solutions further boosts the adoption of solar generators. Along with the aforementioned factors, robust economic conditions, and more reliance on renewable energy by the consumers play a vital role in this region's dominance worldwide.

For instance, in October 2023, Jackery, a California based global leader in solar generators and clean portable power solutions, announced its participation as an exhibitor at the SEMA Show 2023, which would take place at the Las Vegas Convention Center. Jackery stated that it would showcase its Plus line of products, including the Jackery Solar Generator 2000 Plus, 1000 Plus, and 300 Plus, along with fan favorites from the Jackery Pro solar generator line at Booth No 10955.

Government Initiatives to Boost the Market

The need for government initiatives in the solar generator market is crucial to promote the growth of the industry. Government support and incentives, such as tax incentives, can encourage the installation of solar generators, making them more accessible and affordable for consumers. The government can invest in research and development to enable lower costs and greater solar adoption rate.

In February 2023, The United States Energy Information Administration expanded its Battery Storage Systems (BESS) to effectively power solar generators. The United States battery storage capacity has grown rapidly, with plans to become more than

double the capacity by 2023. Developers intend to add 9.4 GW of battery storage to the existing 8.8 GW, enabling these batteries to store excess electricity from solar generators for later use. The growth in battery storage capacity is expected to make intermittent energy sources like wind and solar more stable by storing extra energy for later use, thus changing the United States electricity generation portfolio.

Impact of COVID-19

The COVID-19 pandemic had a significant impact on the solar generators market. Pre-COVID, the industry experienced substantial growth. However, the advent of pandemic led to a slowdown in project growth, supply chain disruptions, and financial concerns for homeowners. Post-COVID, the solar industry is facing a lot of obstacles such as tightening tax equity markets, permitting challenges, and a steep decline in workforce. Despite these setbacks, the pandemic is creating opportunities for innovation and growth. It is anticipated that the scarcity of electronic components in the post-COVID-19 pandemic can lead to the development of more efficient and powerful generators in future. Hence, it can be concluded that the market image has changed a lot due to the advent of the pandemic and people are now preferring to adopt solar generators for a variety of residential and commercial purposes.

Key Players Landscape and Outlook

The global solar generators market is observing a rise in innovation as key firms are investing a hefty sum in solar inverters, portable solar panels, and other products. These firms are seeking acquisitions, partnerships, and collaborations to increase their market presence and profitability. Furthermore, the overall growth of solar generator market is being accelerated by dynamic environment, which is driving quick improvements.

In September 2023, BioLite unveiled the BioLite BaseCharge 1500, the company's largest portable power station till date, with a storage capacity of little over 1,500 watt-hours. Using the provided adapter to connect to a solar panel converts the portable power station to a solar generator with a constant source of electricity.

In January 2022, Bluetti unveiled NA300 solar generator powered by sodium ion batteries. It consist of several features such as thermal stability, quick charging capacity, low-temperature performance, and integration efficiency. Moreover, this solar generator has four 20-amp standard wall plugs as well as a 30-amp L14-30 output port, which is powered by the system's built-in 3000W pure sine wave inverter.

Table of Contents:

7.1.6.2. By Grid Connectivity
7.1.6.2.1. On-grid
7.1.6.2.2. Off-grid
7.1.6.3. By Composition
7.1.6.3.1. Rechargeable Battery
7.1.6.3.2. Solar Inverter
7.1.6.3.3. Portable Solar Panels
7.1.6.3.4. Solar Charge Controller
7.1.6.4. By Energy Capacity
7.1.6.4.1. Less than 40 kWh
7.1.6.4.2. 80 to 150 kWh
7.1.6.4.3. More than 150 kWh
7.1.6.5. By End-user
7.1.6.5.1. Residential
7.1.6.5.2. Commercial
7.1.6.5.3. Industrial
7.1.7. Canada
7.1.8. Mexico
*All segments will be provided for all regions and countries covered
7.2. Europe
7.2.1. Germany
7.2.2. France
7.2.3. Italy
7.2.4. United Kingdom
7.2.5. Russia
7.2.6. Netherlands
7.2.7. Spain
7.3. South America
7.3.1. Brazil
7.3.2. Argentina
7.4. Asia-Pacific
7.4.1. India
7.4.2. China
7.4.3. Japan
7.4.4. Australia
7.4.5. South Korea
7.5. Middle East & Africa
7.5.1. Saudi Arabia
7.5.2. UAE
7.5.3. South Africa
8. Market Mapping, 2023
8.1. By Grid Connectivity
8.2. By Composition
8.3. By Energy Capacity
8.4. By Region
9. Macro Environment and Industry Structure
9.1. Supply Demand Analysis

9.2. Import Export Analysis
9.3. Value Chain Analysis
9.4. PESTEL Analysis
9.4.1. Political Factors
9.4.2. Economic System
9.4.3. Social Implications
9.4.4. Technological Advancements
9.4.5. Environmental Impacts
9.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)
9.5. Porter's Five Forces Analysis
9.5.1. Supplier Power
9.5.2. Buyer Power
9.5.3. Substitution Threat
9.5.4. Threat from New Entrant
9.5.5. Competitive Rivalry
10. Market Dynamics
10.1. Growth Drivers
10.2. Growth Inhibitors (Challenges and Restraints)
11. Key Players Landscape
11.1. Competition Matrix of Top Five Market Leaders
11.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2023)
11.3. Mergers and Acquisitions/Joint Ventures (If Applicable)
11.4. SWOT Analysis (For Five Market Players)
11.5. Patent Analysis (If Applicable)
12. Pricing Analysis
13. Case Studies
14. Key Players Outlook
14.1. Duracell Inc.
14.1.1. Company Details
14.1.2. Key Management Personnel
14.1.3. Products & Services
14.1.4. Financials (As reported)
14.1.5. Key Market Focus & Geographical Presence
14.1.6. Recent Developments
14.2. Jackery Inc.
14.3. Voltaic Systems
14.4. BioLite Inc
14.5. Powerenz, Inc. (Powerenz)
14.6. Sunvis Solar
14.7. Bluetti Power Inc.
14.8. Hollandia Solar
14.9. Goal Zero LLC
14.10. Altern Limited
14.11. SolSolutions LLC (DolMan)
*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.
15. Strategic Recommendations

16. About Us & Disclaimer

Solar Generator Market Assessment, By Grid Connectivity [On-grid, Off-grid], By Composition [Rechargeable Battery, Solar Inverter, Portable Solar Panels, Solar Charge Controller], By Energy Capacity [Less Than 40 KWH, 80 to 150 KWH, More Than 150 KWH], By End-user [Residential, Commercial, Utility], By Region, Opportunities and Forecast, 2017-2031F

Market Report | 2024-04-19 | 222 pages | Market Xcel - Markets and Data

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4500.00
	Muti-User/Corporate Licence	$5700.00
	Custom Research License	$8200.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	

Address*		City*	
Zip Code*		Country*	
		Date	2025-05-07
		Signature	