

Global Solar Simulator Market Size Study & Forecast, By Type (Steady State, Pulsed), By Light Source (Xenon Arc Lamp, Metal Halide Arc Lamp, UV Lamp, QTH Lamp, LED Lamp), By Application (PV Cell Module and Material Testing, UV Testing of Materials and Products, Automotive Testing, Biomass Study, Others), and Regional Analysis, 2023-2030

<https://marketpublishers.com/r/G0743BED1541EN.html>

Date: April 2024

Pages: 200

Price: US\$ 4,950.00 (Single User License)

ID: G0743BED1541EN

Abstracts

Global Solar Simulator Market is valued at approximately USD XX billion in 2022 and is anticipated to grow with a healthy growth rate of more than XX% over the forecast period 2023-2030. A solar simulator is a device used to simulate the sunlight that reaches the Earth's surface under various conditions. These devices are commonly used in scientific research, testing, and industrial applications where controlled and repeatable solar radiation is needed. Solar simulators are widely used in the photovoltaic industry to test the efficiency and performance of solar cells and panels under controlled conditions. By subjecting solar cells to simulated sunlight, researchers and manufacturers can evaluate their electrical characteristics, such as voltage, current, and power output, as well as their durability and reliability. Moreover, the increasing adoption of solar energy, expansion of the solar industry supply chain, and supportive government policies, initiatives, and regulatory compliance are anticipated to create a lucrative demand for the market during the forecast period 2023-2030.

Additionally, the global shift towards renewable energy sources, particularly solar power, is a major driver of the solar simulator market. As governments, businesses, and consumers seek to reduce carbon emissions and transition to cleaner energy alternatives, the demand for solar photovoltaic (PV) systems has surged. Solar simulators are essential for testing and optimizing the efficiency and performance of

solar cells and panels, thereby supporting the growth of the solar energy industry. According to Statista, in 2020, the global cumulative installed solar PV capacity was 7,72,200 megawatts and the adoption of solar energy increased significantly and the number reached 1,177,000 megawatts in 2022. Moreover, the rising R&D and innovation in solar technologies, and increasing focus on energy efficiency and renewable energy sources are anticipated to create a lucrative opportunity for the market. However, the high cost of solar simulators, and reducing subsidies stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Solar Simulator Market study include Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the increasing solar energy investments, rising demand for photovoltaic testing, and growing focus on renewable energy. Whereas, the Asia Pacific is expected to grow at the fastest growth rate during the forecast period, owing to factors such as the rapid expansion of the solar industry, and increasing awareness of environmental issues, climate change, and the need to reduce greenhouse gas emissions are driving the transition towards renewable energy sources like solar power in the Asia Pacific region.

Major market players included in this report are:

Newport Corporation (US)

Meyer Burger Technology AG (Switzerland)

Gsolar Power Co., Ltd. (China)

Spire Solar (Netherlands)

Solar Light Company (US)

Abet Technologies, Inc. (US)

Sciencetech Inc. (Canada)

Spectrolab Inc. (US)

Asahi Spectra Co., Ltd. (Japan)

Iwasaki Electric Co., Ltd. (Japan)

Recent Developments in the Market:

In January 2022, Abet Technologies, Inc. has unveiled an innovative addition to its product lineup: the Sunlite solar simulators. These cutting-edge simulators boast a versatile design that can seamlessly transition between horizontal and up-pointing beam configurations with nothing more than a simple screwdriver. Each system comes equipped with a powerful 100-watt Xenon arc lamp, ensuring reliable performance. Additionally, it includes essential features such as an AM1.5G air mass filter, an adjustable height stands for convenience, and HEPA filtered cooling air for optimal operation. This expansion further bolsters Abet Technologies' position in the market, enhancing its comprehensive product portfolio

Global Solar Simulator Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Type, Light Source, Application, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed

to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters to detailed information about the crucial aspects such as driving factors & challenges that will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Type:

Steady State

Pulsed

By Light Source:

Xenon Arc Lamp

Metal Halide Arc Lamp

UV Lamp

QTH Lamp

LED Lamp

By Application:

PV Cell Module and Material Testing

UV Testing of Materials and Products

Automotive Testing

Biomass Study

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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