

# **Global Solar Hydrogen Panel Market Size study & Forecast, by Technology (Amorphous silicon solar cells, Nano-solar cells, Platinum-loaded Barium Tantalum Oxynitride), by End User (Residential, Industrial, Mobility, Agriculture, Others) and Regional Analysis, 2023-2030**

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## **Abstracts**

Global Solar Hydrogen Panel Market is valued at approximately USD 30 million in 2022 and is anticipated to grow with a healthy growth rate of more than 5.10% over the forecast period 2023-2030. A solar hydrogen panel uses photocatalytic water splitting to generate photohydrogen directly from sunlight and water vapor, bypassing the conversion losses of the standard solar-hydrogen energy cycle. In contrast to other ways of manufacturing hydrogen, such as steam reforming from natural gas and the water-gas shift process, hydrogen solar panels appear especially promising for the green hydrogen economy. The Solar Hydrogen Panel market is expanding because of factors such as increasing demand for green hydrogen and supportive government policies.

Rising demand for hydrogen and the production of green hydrogen across the globe is driving the market growth. As solar energy becomes more affordable and efficient, it becomes an economically viable option for generating the electricity required for hydrogen production. Moreover, the decentralized nature of solar hydrogen production allows for the establishment of small-scale hydrogen generation facilities, which can be particularly beneficial in remote areas or regions lacking access to traditional hydrogen infrastructure. According to the world bank organization, in the year 2020, the global demand for hydrogen reached around 87 million metric tons (MT) and is projected to reach 500–680 million MT by the year 2050. Thus, to meet this growing demand and

consider the environmental concerns of hydrogen production, governments across the globe are taking the initiative to produce green hydrogen, resulting in market growth. For instance, The National Green Hydrogen Mission was established by the Indian government with the goal of developing the capacity to create at least 5 MMT of green hydrogen annually by 2030. Similarly,, the US president signed the Inflation Reduction Act (IRA) into law on August 16, 2022, providing USD 369 billion for new, clean hydrogen energy projects around the nation. Thus, the rising production of green hydrogen across the globe is fostering market growth. In addition, rapid innovations and technological development in solar hydrogen production and increasing potential use of hydrogen across multiple sectors are creating a lucrative opportunity for the market. However, the high cost of Solar Hydrogen Panel stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Solar Hydrogen Panel Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. Europe dominated the market in 2022 owing to factors such as rising government policies to cut greenhouse gas emissions, and rising development of green hydrogen production facilities. Asia Pacific is expected to grow significantly during the forecast period owing to rising demand from end users, rising government support to produce green hydrogen, rising government focus on limiting carbon and greenhouse emissions in the region.

Major market player included in this report are:

Sun Hydrogen Inc

SunPower Corporation

Siemens AG

Ballard Power Systems Inc.

Hydrogenics Corporation

ITM Power Plc

Nel Hydrogen

Plug Power Inc.

Enapter AG

McPhy Energy

Recent Developments in the Market:

In June 2022, Air Liquide S A and Siemens Energy established a joint venture in Europe. This Franco-German collaboration would enable the development of a sustainable hydrogen economy in Europe and construct a European ecosystem for electrolysis and hydrogen power plant. With a capacity of three gigatons per year by 2025, production is anticipated to start in the second part of 2023.

In Aug 2021, Infineon Technologies and Linde entered a long-term agreement for the on-site production and storage of green hydrogen. Infineon Technologies plans to use green hydrogen in the production of semiconductors.

Global Solar Hydrogen Panel 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 – Technology, End User, Region

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

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

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to 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 detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Technology”

Amorphous Silicon Solar Cells

Nano-Solar Cells

Platinum Loaded Barium Tantalum Oxynitride

By End User:

Residential

Industrial

Mobility

Agriculture

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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