Polysilicon Market Research Report - Forecast to 2023

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Description:

Global Polysilicon Market: Information by Manufacturing Technology (Siemens Process, FBR Process, and Upgraded Metallurgical-Grade Silicon Process), End-Use Industry (Solar, Electronics), Structural Form (Chips, Chunks, Rods), Region—Forecast till 2023

Market Synopsis

Polysilicon is a high-grade polycrystalline form of silicon with semiconductor-like material properties. It is mainly used as a raw material in the solar power generation and electronics industries. Considering its semiconductor properties, polysilicon is used to make photovoltaic (PV) panels. It also finds application in electronic gates, integrated circuits, resistors, and conductors, among others. There are three processes for manufacturing polysilicon—the Siemens process, fluidized bed reactor (FBR) process, and upgraded metallurgical-grade silicon process. The FBR process is an emerging technology; it is a low-cost alternative to the Siemens process.

The rapid increase in the number of solar PV installations and the rising demand for electronic devices across the globe is likely to drive the growth of the polysilicon market in the coming years. Also, government subsidies are making the use of solar appliances affordable in urban as well as semi-urban areas, which is expected to boost the demand for polysilicon during the forecast period. Moreover, the use of electronic-grade polysilicon in the manufacturing of electronic circuits and power conversion devices, among others is projected to drive market growth during the review period. In addition, the growing population, improved living standards, and urbanization are leading to an increased demand for power, offering lucrative opportunities to players in the polysilicon market.

The key players operating in this market are adopting various business strategies such as product launches, joint ventures, and agreements to gain significant market shares. However, the high capital investments required to set up polysilicon production plants are likely to hinder market growth during the forecast period.

Global Polysilicon Market Share, by End-Use Industry, 2017 (%)
The global polysilicon market has been segmented into five regions, namely, Asia-Pacific, North America, Europe, Latin America and the Middle East & Africa. Asia-Pacific accounted for the largest share of the global polysilicon market in 2017. This is mainly due to rapid urbanization and the high demand for the product in end-use industries such as solar power generation and electronics. China is the largest producer and supplier of solar PV installations in the world. Also, China, South Korea, and Japan are the major electronic component producers, which is likely to boost the demand for polysilicon in the region.

North America accounted for the second-largest share of the global polysilicon market in 2017. Due to government initiatives for the use of renewable energy sources such as solar energy, the polysilicon market in the region is expected to grow in the coming years.

The European market witnessed moderate growth and the increasing demand for consumer electronics in the region is expected to drive market growth in the years to follow. Lastly, the markets in the Middle East & Africa and Latin America are expected to witness significant growth during the forecast period owing to the rapid industrialization and infrastructural developments in the UAE, Qatar, among others.

**Market Segmentation**

The polysilicon market has been segmented on the basis of manufacturing technology, end-use industry, structural form, and region.

Based on manufacturing technology, the global polysilicon market has been classified as Siemens process, fluidized bed reactor process, and upgraded metallurgical-grade silicon process.

By end-use industry, the global polysilicon market has been segmented into solar power generation, electronics, and others.

Based on structural form, the global polysilicon market has been divided into chips, chunks, granules, and rods.

The global polysilicon market has been studied across five key regions—Asia-Pacific, North America, Europe, Latin America, and the Middle East & Africa.

**Key Players**

Some of the leading players in the global polysilicon market are Wacker Chemie AG (Germany), Hemlock Semiconductor Operations and Hemlock Semiconductor (US), Mitsubishi Polycrystalline Silicon America Corporation (US), GCL-Poly Energy Holdings Limited (China), OCI Solar Power LLC (US), REC Silicon ASA (Norway), Daqo New Energy Corp. (China), SunEdison Inc. (US), Osaka Titanium Technologies Co. Ltd (Japan), Qatar Solar Technologies (Qatar), and Tokuyama Corporation (Japan).
Intended Audience

- Polysilicon manufacturers
- Traders and distributors of polysilicon
- Research and development institutes
- Potential investors
- Raw material suppliers
- Nationalized laboratories

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