



**China Silicon Carbide Industry Report,  
2018-2023**

**August 2018**

## **STUDY GOAL AND OBJECTIVES**

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

## **REPORT OBJECTIVES**

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

## **METHODOLOGY**

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

## **INFORMATION SOURCES**

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

## Abstract

Silicon carbide (SiC) has a range of excellent properties such as high temperature stability, high thermal conductivity, acid and alkali corrosion resistance, low expansion coefficient and thermal shock resistance. It is widely applied in fields of metallurgy, refractories, grinding, ceramics, electronics, etc.

China is the largest producer and exporter of silicon carbide in the world. As the demand from downstream sectors like metallurgy and refractories picked up in 2017, China's output of silicon carbide soared by 38.5% to more than 1 million tons on the previous year. But by product, black silicon carbide and green silicon carbide polarize: output of the former had a 53.9% jump while that of the latter slumped by 65.2%. Steep fall in output of green silicon carbide (often used for cutting solar wafers) is largely due to the fact that it is massively replaced by diamond wire saws over the past two years, and the environmental inspection becomes increasingly stringent, causing some companies to reduce production or even stop production. It is predicted that Chinese silicon carbide market will sustain growth in 2018 but likely at a lower rate due to stricter environment protection requirements.

Silicon carbide is made from quartz sand and petroleum coke. Black silicon carbide price has been on the rise since 2017, climbing to over RMB8,000 per ton in January 2018, because of stricter oversight on environment protection and robust upstream and downstream demand. Green silicon carbide price otherwise went down compared with previous years with the slump in demand.

As technological progress is made, silicon carbide, a kind of new-generation wide band gap semiconductor, has been commercialized and aroused a tide of research and development and production globally. Semiconductor vendors like Cree, Infineon and Rohm have launched more advanced SiC based semiconductor devices and modules since 2016, broadening application of SiC semiconductors.

China follows behind closely and has been one of very few players engaged in both silicon carbide substrates and epitaxial materials. The country is marching towards a global leading role in semiconductor device design and manufacturing technologies. It as yet has built a relatively complete silicon carbide industry chain system.

In the future, silicon carbide semiconductor will find its way into power supply and photovoltaic industries, especially new energy vehicle field where it will be used more and promoted. The global silicon carbide power device market is estimated to be worth \$1.4 billion in 2023, nearly four times larger than that in 2017.

Global and China Silicon Carbide Industry Report, 2018-2023 highlights the following:

- ◆ Global silicon carbide industry (smelting and processing, power semiconductors) (market size, key companies, etc.);
- ◆ China silicon carbide industry (policy environment, industry status and development trend);
- ◆ China silicon carbide smelting and processing market (supply and demand, import and export, key companies and price trend);
- ◆ China silicon carbide semiconductor industry (market size, industry chain (substrates, epitaxies, devices, etc.), key companies, etc.);
- ◆ 15 Chinese silicon carbide smelting and processing companies and 10 silicon carbide semiconductor vendors (operation, revenue structure, silicon carbide business, etc.).

## Vendors in China's Silicon Carbide Semiconductor Industry Chain



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