

# China Silicon Carbide Industry Report, 2019-2025

Aug. 2019

## 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) is the most mature and the most widely used among third-generation wide band gap semiconductor materials. Over the past two years, global SiC market capacity, however, hovered around 3 million tons due to producers' unwillingness to expand production, a result of high technical barriers (unstable quality of the raw material crystal column). China's SiC market remains in large size despite a late start, with its capacity sharing roughly 70% of global total in 2018.

Although China boasts a large SiC capacity, most of Chinese companies make little use of their capacity, stopping production or just producing sometime on account of environmental campaigns. In 2018, China's SiC output reached 910,000 tons (with capacity utilization close to 40%), an annualized slump of 15.7%. In the country, SiC products fall into black and green types, of which black SiC prevails in the market. In 2018, China produced 850,000 tons of black SiC (or 93.4% of the country's total SiC output), 15% less than in the previous year; its green SiC output plunged by 25% to 60,000 tons. The ever wider use of diamond in solar wafer cutting was another big reason why SiC output took a nosedive.

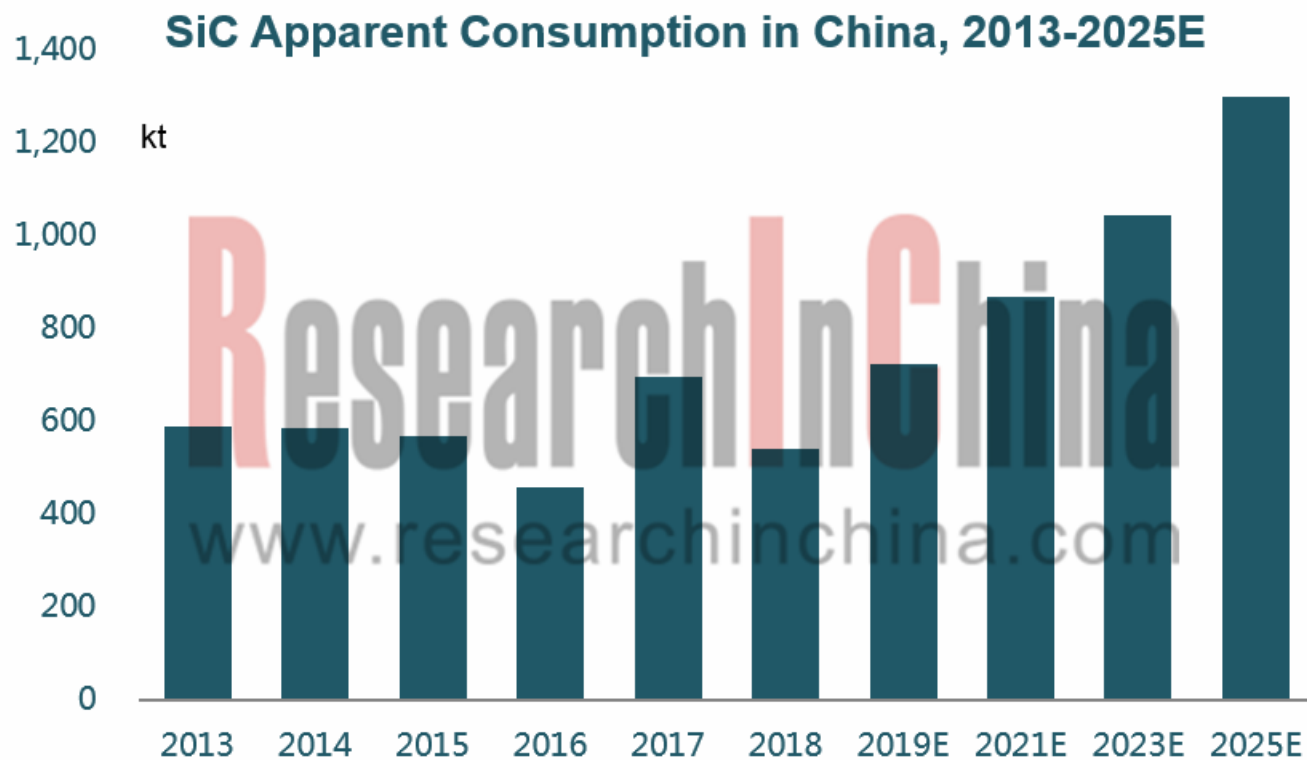
In China, demand from SiC power devices will be a stimulus to SiC market growth, and traditional applied industries like refractories and abrasives will need less. It can be seen from the trends of the international market that foreign automotive semiconductor vendors have set about seeking for long-term partnerships with SiC wafer suppliers; in the Chinese market, the collaborations between the Institute of Electrical Engineering (IEE) of Chinese Academy of Sciences (CAS), Tsinghua University and Belgium's CISSOID in 2019, are a boon for massive application of SiC devices to new energy vehicles. Additionally, SiC devices are extensively used in 5G base stations. In 2019, Xidian University succeeded in trial production of a 5G communication chip by using new-generation gallium nitride (GaN) material based on SiC substrate, breaking the overseas monopoly and paving the way for SiC being applied to domestic 5G market.

The burgeoning sectors like new energy vehicle and 5G will push up global SiC power semiconductor market size to a staggering \$1.6 billion in 2025, compared with less than \$400 million in 2018. The figure is expected to surge to virtually \$5.0 billion in 2030, at an AAGR of at least 20%.

A combination of factors such as technological advances, favorable policies and growing demand will prop the Chinese SiC industry to soar.

China Silicon Carbide Industry Report, 2019-2025 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 12 silicon carbide semiconductor vendors (operation, revenue structure, silicon carbide business, etc.).



Source: ResearchInChina

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