Silicon Metal Market - Growth, Trends, Covid-19 Impact, and Forecast (2023 - 2028)

Market Report | 2023-01-23 | 160 pages | Mordor Intelligence

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Report description:

The global silicon metal market is estimated to reach over 2,900 kilotons by the end of this year and is projected to register a CAGR of over 5% during the forecasted period.

The Covid-19 pandemic was a significant challenge for the silicon metal market, directly affecting the manufacturer's supply chain across the globe and shutting down production facilities to minimize the risk of virus spread.

Key Highlights
Increased demand for aluminum-silicon alloys is expected to fuel the silicon metals consumption due to the increasing demand for electric vehicles and increased automobile production globally. Also, the growing usage of smart cellular phones, laptops, tablets, and other electronic gadgets is expected to drive the silicon metal market.
However, lower silicon production in China may hinder the market's growth.
Measures to reduce production costs by improving current technologies are projected to create potential growth opportunities for the market throughout the forecast period.
The Asia-Pacific accounts for the highest market share and is expected to dominate the market during the forecast period.

Silicon Metal Market Trends

Surging Demand from the Solar Panels

Silicon is the most common semiconductor material in solar cells, representing approximately 95% of the modules sold today. Metallurgical silicon, on purification, can be converted into high-purity silicon, which is the basis for semiconductors or solar cells. Hence, it can be used in the production of solar cells.

The solar power industry is one of the fastest-growing industries in the world. According to the International Energy Agency (IEA), the sector accounts for almost two-thirds of the net power capacity worldwide.
According to the IEA forecast, renewable power capacity is expected to expand by 50% between 2019 and 2023, majorly led by solar PV. Solar PV is expected to account for almost 60% of the expected growth. The PV share in global net renewable capacity in 2017 was 55.4% which in 2022 rose to 188.6 GW (59.1%). After a record slowdown in 2020 brought on by the impact of COVID-19 on projects, the forecast states that if solar power growth continues in India, Brazil, and South Africa, it may reach 197.3 GW, accounting for around 62.3% of the world's renewable energy supply.
As long-delayed large-scale utility projects come online, PV capacity additions in India are expected to triple in 2022 compared to 2020.
In the United States, capacity additions will continue to grow in 2022 as the 26% ITC is extended for another year, making projects more economically appealing. With continued cost reductions and tax credits, distributed PV will account for nearly 30% of US PV growth in 2022.
In the third quarter of 2021, the US solar market installed 5.4 GW, which was a 33% rise in solar capacity than the third quarter of 2020. Texas and Virginia accounted for more than half of the utility-scale for solar installation in Q3 of 2021.
In Q1-Q3 of 2021, solar energy generated 54% of electricity in the US, which was 44% in 2020. Supply chain constraints and rising raw material prices are expected to impact the market in 2022 negatively.
According to the Ministry of New and Renewable Energy (MNRE), India stands 4th in solar PV deployment across the globe as of the end of 2021. Solar power installed capacity reached around 61.97 GW as of 30th November 2022. India's solar tariff is very competitive today and achieved grid parity.
The developments above are expected to drive the market for silicone metal in the solar industry through the forecast period.

China to Dominate the Asia-Pacific

China dominates the silicon metal market in Asia-Pacific due to the growing demand for silicon from different industries. Silicones (adhesives and sealants, lubricants, chemicals, and others) and aluminium alloys are the most significant applications of silicon metal. The leading applications of these products include automotive, building and construction, industrial, and other end-user industries.
Leading electric car manufacturers in China include Tesla, BYD Co., and Nio Inc. The Chinese government plans to have a minimum of 5,000 fuel-cell electric vehicles by 2025 and 1 million by 2030.
The government's promotion of electric, hybrid, and fuel-cell electric vehicles is expected to drive the market during the forecast period. The growing demand for electric cars in the country is driving the need for aluminum alloys, silicon adhesives, and semiconductors.
The country is one of the world's largest producers of stainless steel. The land produced 1,336.67 million tons of steel in 2021, which increased by 0.6% compared to 2020. China's stainless steel crude steel output in 2021 was estimated to be 30.63 million tons, with an increase of 493,000 tons or 1.64% compared to 2020.
The top global solar PV manufacturing companies, JinkoSolar, JA Solar, and Trina Solar, have headquarters in China. Solar cell manufacturing in the country is increasing exponentially in the past two years. The industrial production of solar cells increased from 157,286-thousand-kilowatt hours to 234,054 thousand kilowatts in 2021, which increased by 42.1%.
China is a prime location for investments in producing mobiles, laptops, and other electrical appliances. Major global manufacturers invested significant capital in the Chinese market to cope with the upcoming demand surge.
Due to these factors, China is expected to dominate the Asia-Pacific region.

Silicon Metal Market Competitor Analysis

The silicon metal market is partially consolidated. The major companies (not in any particular order) include Hoshine Silicon Industry Co. Ltd, Ferroglobe, Elkem, Dow, and Wacker Chemie AG.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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