

Global Petroleum-based Hard Carbon Anode Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

<https://marketpublishers.com/r/G82646FCD857EN.html>

Date: June 2026

Pages: 131

Price: US\$ 3,480.00 (Single User License)

ID: G82646FCD857EN

Abstracts

According to our (Global Info Research) latest study, the global Petroleum-based Hard Carbon Anode market size was valued at US\$ 432 million in 2025 and is forecast to a readjusted size of US\$ 2055 million by 2032 with a CAGR of 24.9% during review period.

Petroleum-based Hard Carbon Anode is an advanced anode material derived from petroleum-based carbon precursors through controlled carbonization and structural engineering, forming a disordered carbon network with abundant microporous structures that enable efficient lithium and sodium ion storage while maintaining strong structural stability and long cycle performance. It is widely used in high-performance lithium-ion and sodium-ion battery systems requiring high capacity, reliability, and durability. Its advantages include high specific capacity, excellent structural integrity, and extended service life. In 2025, production totaled 13,853 tons and the average price was USD 30,318 per ton. The industry's capacity utilization rate reached 78% and the average gross margin was approximately 35%. Upstream mainly consists of petroleum-based carbon precursors, with representative suppliers including Olam Group, Cargill, Baowu Carbon Materials, and Sinopec ensuring stable raw material supply. The midstream focuses on carbonization process control, pore structure engineering, particle size optimization, and impurity removal processes, which together determine electrochemical performance consistency and long-term cycling stability. Downstream applications are primarily in lithium-ion batteries and sodium-ion batteries, with key customers including Panasonic, Samsung SDI, CATL, BYD, and Farasis Energy.

Petroleum-based hard carbon anodes are emerging as a core pillar of next-generation energy storage, leveraging exceptional microstructural consistency and industrial

scalability. In the sodium-ion sector, petroleum pitch-based hard carbon sets a reliable performance benchmark for large-scale storage through precise pore-channel engineering. Meanwhile, powerfully driven by surging lithium-ion demand, high-end petroleum coke-based hard carbon serves as a crucial composite substrate for silicon-carbon anodes, effectively mitigating volume expansion and boosting fast-charging capabilities. With the dual boom in new energy vehicles and energy storage, petroleum-based hard carbon is comprehensively evolving from a traditional refining byproduct into a dual strategic cornerstone underpinning both the high-end evolution of lithium-ion and the mass adoption of sodium-ion batteries.

This report is a detailed and comprehensive analysis for global Petroleum-based Hard Carbon Anode market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Petroleum-based Hard Carbon Anode market size and forecasts, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Petroleum-based Hard Carbon Anode market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Petroleum-based Hard Carbon Anode market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (Tons), and average selling prices (US\$/Ton), 2021-2032

Global Petroleum-based Hard Carbon Anode market shares of main players, shipments in revenue (\$ Million), sales quantity (Tons), and ASP (US\$/Ton), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Petroleum-based Hard Carbon Anode

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Petroleum-based Hard Carbon Anode market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Kuraray (Japan), JFE Chemical (Japan), Kureha (Japan), Sumitomo (Japan), Stora Enso (Finland), Shanshan (China), BTR (China), Putailai (China), Best Graphite (China), HiNa Battery Technology (China), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Petroleum-based Hard Carbon Anode market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

1-5?m

5-10?m

Others

Market segment by Specific Capacity

Specific Capacity

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