

Global Petroleum-based Hard Carbon Anode Market Growth 2026-2032

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Abstracts

The global Petroleum-based Hard Carbon Anode market size is predicted to grow from US\$ 411 million in 2025 to US\$ 2104 million in 2032; it is expected to grow at a CAGR of 26.5% from 2026 to 2032.

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.

LP Information, Inc. (LPI) ' newest research report, the "Petroleum-based Hard Carbon Anode Industry Forecast" looks at past sales and reviews total world Petroleum-based Hard Carbon Anode sales in 2025, providing a comprehensive analysis by region and market sector of projected Petroleum-based Hard Carbon Anode sales for 2026 through 2032. With Petroleum-based Hard Carbon Anode sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US\$ millions of the world Petroleum-based Hard Carbon Anode industry.

This Insight Report provides a comprehensive analysis of the global Petroleum-based Hard Carbon Anode landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on Petroleum-based Hard Carbon Anode portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global Petroleum-based Hard Carbon Anode market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for Petroleum-based Hard Carbon Anode and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global Petroleum-based Hard Carbon Anode.

This report presents a comprehensive overview, market shares, and growth opportunities of Petroleum-based Hard Carbon Anode market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

1-5?m

5-10?m

Others

Segmentation by Specific Capacity:

Specific Capacity

Contents

1 SCOPE OF THE REPORT

- 1.1 Market Introduction
- 1.2 Years Considered
- 1.3 Research Objectives
- 1.4 Market Research Methodology
- 1.5 Research Process and Data Source
- 1.6 Economic Indicators
- 1.7 Currency Considered
- 1.8 Market Estimation Caveats

2 EXECUTIVE SUMMARY

- 2.1 World Market Overview
 - 2.1.1 Global Petroleum-based Hard Carbon Anode Annual Sales 2021-2032
 - 2.1.2 World Current & Future Analysis for Petroleum-based Hard Carbon Anode by Geographic Region, 2021, 2025 & 2032
 - 2.1.3 World Current & Future Analysis for Petroleum-based Hard Carbon Anode by Country/Region, 2021, 2025 & 2032
- 2.2 Petroleum-based Hard Carbon Anode Segment by Type
 - 2.2.1 1-5?m
 - 2.2.2 5-10?m
 - 2.2.3 Others
 - 2.2.4 Petroleum-based Hard Carbon Anode Sales by Type
 - 2.2.4.1 Global Petroleum-based Hard Carbon Anode Sales Market Share by Type (2021-2026)
 - 2.2.4.2 Global Petroleum-based Hard Carbon Anode Revenue and Market Share by Type (2021-2026)
 - 2.2.4.3 Global Petroleum-based Hard Carbon Anode Sale Price by Type (2021-2026)
- 2.3 Petroleum-based Hard Carbon Anode Segment by Specific Capacity
 - 2.3.1 Specific Capacity

List Of Tables

LIST OF TABLES

Table 1. Petroleum-based Hard Carbon Anode Annual Sales CAGR by Geographic Region (2021, 2025 & 2032) & (\$ millions)

Table 2. Petroleum-based Hard Carbon Anode Annual Sales CAGR by Country/Region (2021, 2025 & 2032) & (\$ millions)

Table 3. Major Players of 1-5?m

Table 4. Major Players of 5-10?m

Table 5. Major Players of Others

Table 6. Global Petroleum-based Hard Carbon Anode Sales by Type (2021-2026) & (Tons)

Table 7. Global Petroleum-based Hard Carbon Anode Sales Market Share by Type (2021-2026)

Table 8. Global Petroleum-based Hard Carbon Anode Revenue by Type (2021-2026) & (\$ million)

Table 9. Global Petroleum-based Hard Carbon Anode Revenue Market Share by Type (2021-2026)

Table 10. Global Petroleum-based Hard Carbon Anode Sale Price by Type (2021-2026) & (US\$/Ton)

Table 11. Major Players of Specific Capacity

List Of Figures

LIST OF FIGURES

- Figure 1. Picture of Petroleum-based Hard Carbon Anode
- Figure 2. Petroleum-based Hard Carbon Anode Report Years Considered
- Figure 3. Research Objectives
- Figure 4. Research Methodology
- Figure 5. Research Process and Data Source
- Figure 6. Global Petroleum-based Hard Carbon Anode Sales Growth Rate 2021-2032 (Tons)
- Figure 7. Global Petroleum-based Hard Carbon Anode Revenue Growth Rate 2021-2032 (\$ millions)
- Figure 8. Petroleum-based Hard Carbon Anode Sales by Geographic Region (2021, 2025 & 2032) & (\$ millions)
- Figure 9. Petroleum-based Hard Carbon Anode Sales Market Share by Country/Region (2025)
- Figure 10. Petroleum-based Hard Carbon Anode Sales Market Share by Country/Region (2021, 2025 & 2032)
- Figure 11. Product Picture of 1-5?m
- Figure 12. Product Picture of 5-10?m
- Figure 13. Product Picture of Others
- Figure 14. Global Petroleum-based Hard Carbon Anode Sales Market Share by Type in 2026
- Figure 15. Global Petroleum-based Hard Carbon Anode Revenue Market Share by Type (2021-2026)
- Figure 16. Product Picture of Specific Capacity

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