

Carbon Steel Demand to Reach USD 1,622.8 Billion by 2034 Amid Construction, Automotive, and Infrastructure Boom | FMI

The USA and South Korea drive carbon steel demand with investments in energy, oil, gas, and shipbuilding, fueled by shale gas, renewables, and exports.

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EINPresswire.com/ -- The [carbon steel market](#) has emerged as a cornerstone of modern industrial applications, encompassing construction, automotive, energy, and heavy machinery sectors. Carbon steel's unique properties, such as strength, ductility, and cost-effectiveness, make it a preferred choice across industries. Its wide-ranging applications, from infrastructure projects to precision tools, have cemented its role as an indispensable material.



Carbon Steel Market Size

The market's growth is underpinned by global industrialization, with developing economies playing a pivotal role. Asia-Pacific remains the largest contributor, accounting for a significant share of global sales due to rapid urbanization and infrastructural investments. In contrast, North America and Europe are witnessing a steady rise in demand driven by technological advancements and sustainable manufacturing practices.

The demand for carbon steel is witnessing consistent growth owing to its extensive use in construction and manufacturing. In 2023, global sales stood at USD 1,050.8 billion, with expectations of a 3.6% y-o-y growth in 2024. The construction sector accounts for a substantial share, driven by urban development projects and the rising adoption of prefabricated structures.

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Automotive manufacturing is another significant driver, with carbon steel being essential for chassis, body panels, and engine components. Emerging economies, particularly in Asia-Pacific, are experiencing a surge in automobile production, further propelling market growth. Additionally, the shift towards electric vehicles is expected to bolster demand for high-strength carbon steel in battery casings and lightweight components.

Key Industry Highlights

Consistent Growth: Carbon steel sales are expected to grow from USD 1,088.4 billion in 2024 to USD 1,622.8 billion by 2034.

Dominance of Asia-Pacific: This region continues to lead the market, contributing over 40% of global sales.

Expanding Applications: Carbon steel is increasingly used in renewable energy projects, enhancing its market relevance.

“With increasing demand from construction, automotive, and manufacturing sectors, the carbon steel market is primed for robust growth. The rising trend of sustainable and durable materials further solidifies its position as a critical industrial resource,” says Nikhil Kaitwade, Associate Vice President at Future Market Insights (FMI).

Key Takeaways from Carbon Steel Market Study

- The global carbon steel market was valued at USD 1,050.8 billion in 2023.
- A CAGR of 4% is projected between 2024 and 2034.
- The construction sector remains the largest end-user segment, accounting for more than 35% of demand.
- Asia-Pacific dominates the market, followed by North America and Europe.
- Renewable energy projects are emerging as a critical growth driver.

Carbon Steel Market Trends and Restraints Assessment

Trends:

Increasing preference for high-strength, low-alloy (HSLA) carbon steel to enhance performance in demanding applications.

Growing focus on sustainable production processes, including energy-efficient steelmaking and recycling initiatives.

Expansion of carbon steel's role in renewable energy, particularly for wind turbine structures and solar panel mounts.

Restraints:

Price volatility of raw materials, such as iron ore and coal, poses a challenge to manufacturers.

Competition from alternative materials, including aluminum and composites, may limit market penetration in some industries.

Stringent environmental regulations and carbon emission norms could impact production processes.

Competitive Landscape in the Carbon Steel Market

The carbon steel market is characterized by the presence of several global and regional players striving for innovation and market share.

Key Players of Carbon Steel Market

- ArcelorMittal
- Baowu Steel Group Corporation Limited
- Nippon Steel Corporation
- Thyssenkrupp AG
- Nucor Corporation
- JFE Steel Corporation
- Tata Steel Limited
- Posco International
- Cleveland-Cliffs Inc.
- EVRAZ Plc
- Gerdau S.A.
- Hyundai Steel Co
- Jiangsu Shagang Group Co., Ltd.
- United States Steel Corp.
- Novolipetsk Steel
- Severstal
- Steel Authority of India Limited
- JSW Steel Ltd.

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Country-wise Insights

The section covers assessments of carbon steel sales across key countries. Countries from East Asia and North America are anticipated to exhibit promising double-digit growth over the forecast period. All the below-listed countries are collectively set to reflect a CAGR of around 4% through the forecast period.

Expansion of Oil and Gas and Renewable Energy Sectors Boosting the United States

The United States is projected to surge at a CAGR of 4.6% from 2024 to 2034, with sales estimated to reach USD 91,523.5 million by 2034. The country is envisioned to augment, particularly in the oil and gas and energy sectors. The growing demand for steel with carbon in pipelines, drilling equipment, and storage tanks is anticipated to be compelled by shale gas exploration and new drilling technologies.

The government's focus on energy independence and the resurgence of domestic manufacturing industries are predicted to propel demand for steel with carbon. Renewable energy projects like wind farms and solar power plants also demand more carbon steel for structural components and support systems.

As manufacturers in the United States are estimated to invest in energy infrastructure and develop their oil and gas resources, the need for carbon alloyed steel is predicted to evolve in the projected period.

Global Leadership in Shipbuilding and Marine Infrastructure Propelling South Korea

South Korea is projected to surge at a CAGR of 4.5% from 2024 to 2034, with sales envisioned to reach USD 77,574.8 million by 2034. Being a global leader in shipbuilding and marine industries, the demand for alloyed steel in South Korea is highly dependent on these sectors. Billions of tons of high-strength carbon steel are used by local shipbuilders to fabricate offshore platforms, hulls, and structures.

Large commercial ships, maritime constructions, and offshore oil rigs have been more and more in demand in the last several years. The nation's emphasis on exporting top-notch vessels and marine gear maintains a steady demand for steel infused with carbon. The future of the industry is anticipated to be pushed by the shipbuilding sector in South Korea due to rising endeavors for energy exploration.

Japan's Unique Automotive and Precision Manufacturing Industries Driving Demand

In the forecast period, the industry in Japan is predicted to rise steadily at a CAGR of 3.9% and attain a total worth of USD 80,635 million by 2034. The automotive industry and industrial sector are estimated to propel growth of the country's carbon steel industry. Japan uses advanced high-strength steels (AHSS), which are lightweight yet impact-resistant, to make high-quality, precisely built automobiles and machinery and this increases vehicle safety.

Key Segments of Market Report

By Carbon Content:

In terms of carbon content, the industry is divided into low, medium, and high-carbon-content steel.

By Product Type:

In terms of product type, the industry is divided into flat product types (galvanized corrugated sheets, hot roll coils, cold roll sheets, pipes, electrical sheets, tin plates, hot roll plates, and plates) and long product types (bars and rods, steel structural, and railway material).

By End-use:

In terms of end-use, the industry is divided into building and construction, automotive, railways, shipbuilding and marine, aerospace, oil and gas and energy, heavy machinery and equipment, consumer appliances, and, cutting tools and agriculture equipment.

By Region:

Key countries of North America, Latin America, Western Europe, Eastern Europe, East Asia, South Asia, and the Middle East and Africa have been covered in the report.

Authored By

Nikhil Kaitwade (Associate Vice President at Future Market Insights, Inc.) has over a decade of experience in market research and business consulting. He has successfully delivered 1500+ client assignments, predominantly in Automotive, Chemicals, Industrial Equipment, Oil & Gas, and Service industries.

His core competency circles around developing research methodology, creating a unique analysis framework, statistical data models for pricing analysis, competition mapping, and market feasibility analysis. His expertise also extends wide and beyond analysis, advising clients on identifying growth potential in established and niche market segments, investment/divestment decisions, and market entry decision-making.

Nikhil holds an MBA degree in Marketing and IT and a Graduate in Mechanical Engineering. Nikhil has authored several publications and quoted in journals like EMS Now, EPR Magazine, and EE Times.

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The global [stainless steel market](#) is projected to have a moderate-paced CAGR of 5.5% during the forecast period. The current valuation of the market is USD 126.38 billion in 2023.

FMI estimates the [USA and Canada Pre-Painted Steel Roofing and Cladding market](#) to reach a value of USD 1,765.9 Million by the year 2022. Sales prospects of the market are expected to expand at a CAGR of 4.6% and to top a valuation of USD 2,756.0 Million by 2032.

About Future Market Insights (FMI)

Future Market Insights, Inc. (ESOMAR certified, recipient of the Stevie Award, and a member of

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