

# The Global Market for Green (Low-Carbon) Steel 2025-2035

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## Abstracts

Green steel refers to steel produced using technologies and processes that result in significantly lower CO<sub>2</sub> emissions compared to conventional production methods. As countries around the world set ambitious decarbonization targets, the steel sector is under increasing pressure to adopt cleaner technologies and processes. This shift is driving rapid advancements in low-carbon steelmaking, with a focus on hydrogen-based production, carbon capture utilization and storage (CCUS), and electrification using renewable energy.

Many major steel producers have announced plans to invest billions of dollars in low-carbon production capacity over the coming years. Europe is currently leading the charge, with companies like ArcelorMittal, SSAB, and Thyssenkrupp all pursuing green steel initiatives. China, the world's largest steel producer, has also set targets to peak carbon emissions by 2030 and achieve carbon neutrality by 2060, which is expected to drive significant investments in low-carbon steelmaking.

Looking ahead, the green steel market is projected to grow rapidly as more companies adopt clean production technologies and governments implement supportive policies. This growth will be driven by increasing demand from key end-use industries such as automotive, construction, and consumer appliances, as well as rising carbon prices and stricter emissions regulations. In terms of regional demand, Europe is expected to be a key market for green steel over the next decade, driven by the EU's ambitious climate targets and the implementation of a carbon border adjustment mechanism (CBAM) that will put a price on imported steel based on its carbon content.

Despite the positive outlook, the green steel market faces several challenges that could impact its growth trajectory. One of the biggest barriers is the high cost of low-carbon

production technologies compared to conventional steelmaking processes. While costs are expected to come down over time as technologies mature and scale up, green steel is likely to remain more expensive than traditional steel in the near term. Other challenges include limited availability of renewable energy and green hydrogen, regulatory uncertainty, and technical limitations of some low-carbon production processes. Overall, the market for green steel is expected to grow significantly over the next decade as the industry transitions towards more sustainable production methods. With major investments planned by steel producers around the world and increasing demand from key end-use sectors, low-carbon steel is poised to play a critical role in the global decarbonization effort. However, the industry will need to overcome several challenges related to costs, infrastructure, and technology readiness in order to fully realize the potential of green steel.

The Global Market for Green (Low-Carbon) Steel 2025-2035 is a comprehensive market report analyzing the rapidly evolving green steel industry, focusing on current and emerging low-carbon production technologies, key players, market trends, challenges, and opportunities.

The report provides an in-depth look at the global green steel market, starting with an introduction to current steelmaking processes and the industry's decarbonization targets and policies. It explores the properties of green steel, and analyzes various clean production technologies including their advantages, limitations and technology readiness levels (TRLs). Key technologies covered include hydrogen DRI, molten oxide electrolysis, CCUS, biochar, hydrogen plasma reduction, and more.

The market for green steel is segmented by major end-use industries such as automotive, construction, consumer appliances, machinery, rail, packaging and electronics. For each industry, the report provides an overview, green steel applications, and case studies. Profiles of more than 40 producers and technology providers are included.

Current and planned green steel production capacity is mapped globally, with a focus on key players and projects in regions including Europe, North America, China, India, Asia-Pacific, Middle East & Africa, and South America. The competitive landscape is analyzed, highlighting major steel producers, technology providers, and partnerships across the value chain.

The report includes market forecasts to 2035, with projections for green steel production capacity, volumes, market value, and regional demand. Granular data is provided for

production versus demand through 2035, as well as forecast revenues by end-use industry and region. This enables industry stakeholders to identify target markets and applications where green steel demand is predicted to surge over the coming decade.

Beyond an analysis of market drivers and trends, the report delves into the challenges facing the green steel industry as it scales up novel technologies and competes with incumbent production processes. Regulatory and cost barriers are examined, as well as issues around technology readiness and raw material availability.

The report serves as an essential resource for companies across the green steel value chain, including iron and steel producers, hydrogen and renewable energy providers, technology developers, plant equipment suppliers, end-users, investors, and government stakeholders. It provides the data and insights needed to make informed decisions as the green steel market grows from a niche to the mainstream over the next decade.

Key topics covered in the report include:

- Introduction to green steel, its properties and emissions reduction potential

- Decarbonization targets, policies and carbon pricing impacting the steel industry

- Analysis of low-carbon production technologies including hydrogen DRI, CCUS, electrolysis, etc.

- Segmentation of the green steel market by end-use industry

- Profiles of major green steel producers and clean technology providers. Companies profiled include Algoma Steel, Aperam BioEnergia, ArcelorMittal SA, Blastr Green Steel, Boston Metal, China Baowu Steel Group, Compa??a de Aceros del Pac?fico (CAP), Electra Steel, Emirates Steel Arkan, Gravithy, Georgsmarienh?tte Holding GmbH, Greeniron H2 AB, HBIS Group, Helios, Hybrit Development AB, Hybar LLC, Hydnum Steel, Hyundai Steel, JFE Steel, Jindal Shadeed Group, JSW Steel, Kobe Steel, Ltd., Liberty Steel Group, Limelight Steel, Magsort Oy, Meranti Green Steel, Mitsui, Nippon Steel Corporation and more....

- Global mapping of low-carbon steel production capacity and investments to 2035

Challenges and barriers to market growth

Granular market forecasts for green steel supply, demand and revenues by end-use and region

Future green steel market outlook to 2035

The green steel revolution is just beginning, and this report is an invaluable guide to help navigate the rapidly evolving market landscape through 2035. It is a must-read for anyone looking to understand and capitalize on the sustainable transformation of one of the world's most carbon-intensive industries.

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