

# The Global Market for Green Hydrogen, Ammonia and Steel 2024-2034

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## Abstracts

Green hydrogen, green ammonia, and green steel markets are interconnected in the broader energy transition, supporting each other's growth in helping decarbonize heavy industry. Green hydrogen and ammonia are essential to scale up in order to transition away from fossil fuels. Green ammonia acts as a key bridge between green hydrogen production and major end uses like green steel manufacturing. Green hydrogen, green ammonia, and green steel all rely on renewable energy sources like wind, solar, hydropower or biomass to produce hydrogen via electrolysis of water. Green ammonia is produced by using green hydrogen and nitrogen from air to make ammonia and is an efficient means to store and transport green hydrogen. Green steel production utilizes green hydrogen instead of coking coal to reduce iron ore into steel. This eliminates most emissions from traditional steelmaking.

Green ammonia is a vital link that connects the supply of green hydrogen with major industrial applications like green steel production as well as providing an exportable source of renewable hydrogen. The Global Market for Green Hydrogen, Ammonia and Steel 2024-2034 provides an in-depth analysis of these key energy transition markets.

Report contents include:

Green hydrogen

Analysis of current hydrogen production (grey, brown etc.) and demand forecasts to 2033.

Market value chain and industry map.

Market drivers, trends and challenges.

Hydrogen production processes and costs.

Recent industry developments and investments and start-up funding.

Market analysis of hydrogen technology and production including blue hydrogen (from decarbonised natural gas), green hydrogen (from renewable power and electrolysis), carbon capture, hydrogen storage & transport, hydrogen fuel cells, hydrogen vehicles, alternative fuels, ammonia production, methanol production, steelmaking, power & heat generation, marine, and fuel cell trains.

Profiles of 244 companies including large corporations and start-ups. Companies profiled include Advanced Ionics, Aker Horizons, C-Zero, Dynelectro, Ekona Power, Electric Hydrogen, Enapter, EvoIOH, FuelCell Energy, Heliogen, HiiROC, Hystar, HydrogenPro, Innova Hydrogen, Ionomr Innovations, ITM Power, Jolt Electrodes, McPhy Energy SAS, Monolith Materials, NEL Hydrogen, Ohmium, Plug Power, PowerCell Sweden, Sunfire, Syzgy Plasmonics, Thiozen, Thyssenkrupp Nucera and Verdagy.

## Green ammonia

Analysis of green ammonia production pathways and technologies.

Review of supportive regulations and policy mechanisms promoting renewable ammonia.

Evaluation of current and projected green ammonia production costs.

Life cycle analysis (LCA).

Detailed green ammonia market analysis covering:

Key growth drivers and market challenges.

Recent industry developments and project announcements.

Profiles of major green ammonia projects globally.

SWOT analysis of the market.

Assessment of market segments including transportation, fertilizers, hydrogen storage, and power generation.

Examination of the competitive landscape and value chain.

Global and regional market size estimates and forecasts to 2040. Segmented by end-use application and geography.

Future outlook for the emerging green ammonia market.

Profiles of 49 companies across the supply chain. Companies profiled include Engie, EverWind Fuels, Fuella, FuelPositive Corp., Green NorthH2 Energy, Iberdrola, Jupiter Ionics, NEOM Green Hydrogen Company, SK Ecoplant Co., Sumitomo, and Yara.

## Green steel

Opportunities and challenges for green steel.

The role of hydrogen in green steel production.

Analysis of green steel production processes.

Hydrogen Direct Reduced Iron (DRI)

Electrolysis

Carbon Capture and Storage/Use

Biochar replacing coke

Hydrogen Blast Furnace

Renewable energy powered processes

Flash ironmaking

Hydrogen Plasma Iron Ore Reduction

Ferrous Bioprocessing

Microwave Processing

Analysis of advanced materials in green steel.

Composite electrodes

Solid oxide materials

Hydrogen storage metals

Carbon composite steels

Coatings and membranes

Sustainable binders

Iron ore catalysts

Biosteel metallics

Carbon capture materials

Waste gas utilization

Market analysis including prices, plants, market maps, SWOT analysis, market trends and opportunities, recent industry developments and innovations, market growth drivers, market challenges and end-use industries including automotive, construction, machinery, electronics etc.

Global market revenues, historical and forecast to 2033, segmented by end-use industry and region.

44 company profiles. Company profiles include production processes, planned

capacities, collaborations and agreements, future strategies. Companies profiled include ArcelorMittal, Blastr, Boston Metal, Gravithy, H2 Green Steel, Nippon Steel, SSAB and Thyssenkrupp.

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