

Steam Methane Reforming Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented, By Feedstock (Natural Gas, Liquefied Natural Gas, Methanol, Coal), By Conversion Technology (Steam Reforming, Autothermal Reforming, Partial Oxidation, Catalytic Partial Oxidation), By Application (Petroleum Refining, Chemicals, Power Generation, Transportation, Industry Energy), By Region, By Competition, 2020-2030F

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Abstracts

Market Overview

The Steam Methane Reforming (SMR) Market was valued at USD 123.56 Billion in 2024 and is projected to reach USD 170.54 Billion by 2030, growing at a CAGR of 5.36% during the forecast period. SMR is a key process in global hydrogen production, where methane—primarily from natural gas—is reacted with steam at high temperatures to yield hydrogen, carbon monoxide, and carbon dioxide. This method remains the dominant and most cost-efficient route for large-scale hydrogen generation, particularly within the oil refining, ammonia, methanol, and petrochemical industries. The SMR market is expanding due to the increasing focus on clean energy transitions, where hydrogen is central to industrial decarbonization. Integrating carbon capture, utilization, and storage (CCUS) technologies into SMR operations is gaining traction as producers seek to lower the carbon footprint of hydrogen production and align with emerging climate policies and net-zero goals.

Key Market Drivers

Growing Demand for Hydrogen Across Industrial Applications

The accelerating demand for hydrogen across various industrial sectors is a major driver of the SMR market. In oil refining, hydrogen is critical for hydrocracking and desulfurization to produce low-sulfur fuels that meet global emissions regulations. Tightening environmental standards have significantly increased hydrogen requirements in this segment. Similarly, the ammonia industry relies heavily on hydrogen, particularly for fertilizer manufacturing, a sector seeing continuous growth due to expanding global food demand. Additionally, hydrogen plays a key role in methanol production and other chemical processes, where consistent and large-scale supply is essential. SMR remains the preferred production route in these applications due to its economic efficiency, especially in regions with abundant natural gas availability.

Key Market Challenges

Environmental Concerns and Carbon Emissions Associated with Steam Methane Reforming

A critical challenge for the SMR market is its inherent carbon intensity. Producing hydrogen via SMR results in substantial CO₂ emissions—typically 9 to 10 tons of CO₂ for every ton of hydrogen produced—posing a problem in a global environment focused on emissions reduction. As governments implement carbon taxes, emissions caps, and regulatory frameworks aligned with climate commitments, conventional SMR operations face mounting cost pressures and reputational risks. Investors and stakeholders are increasingly prioritizing ESG compliance, making carbon-intensive production methods less attractive. For industries such as refining and chemicals, which are major consumers of hydrogen, adapting SMR technology to align with stricter climate policies has become a necessary but challenging task, requiring significant investment in emission control and carbon capture solutions.

Key Market Trends

Rising Demand for Hydrogen Fuel Driving Growth in Steam Methane Reforming

The growing global focus on hydrogen as a clean energy vector is fueling the expansion of the SMR market. While green hydrogen via electrolysis is gaining attention, SMR

continues to dominate due to its cost-effectiveness and established infrastructure. Governments across the U.S., EU, and Asia-Pacific are implementing national hydrogen strategies that include ramping up hydrogen production using SMR, while promoting CCUS integration to reduce associated emissions and create “blue hydrogen.” The transportation sector, especially in fuel cell vehicles and heavy-duty trucking, is a major contributor to rising hydrogen demand. Industrial sectors such as ammonia production, steelmaking, and petrochemicals—currently responsible for the majority of hydrogen use—are also transitioning to lower-emission hydrogen sources. As a result, SMR with CCUS is increasingly viewed as a transitional technology that can deliver near-term hydrogen volumes while supporting decarbonization. Companies are upgrading existing plants with digital optimization tools and investing in emission control systems to remain competitive in a carbon-conscious marketplace. With expanding use cases and supportive government policies, SMR is expected to maintain a crucial role in the hydrogen economy over the coming years.

Key Market Players

Air Liquide S.A.

Air Products and Chemicals, Inc.

ALLY HI-TECH CO., LTD.

Linde plc

HyGear B.V.

Mahler AGS GmbH

The Messer SE & Co. KGaA

Plug Power Inc.

Hyster-Yale, Inc.

Hexagon Composites ASA

Report Scope:

Steam Methane Reforming Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented, By...

In this report, the Global Steam Methane Reforming Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Steam Methane Reforming Market, By Feedstock:

Natural Gas

Liquefied Natural Gas

Methanol

Coal

Steam Methane Reforming Market, By Conversion Technology:

Steam Reforming

Autothermal Reforming

Partial Oxidation

Catalytic Partial Oxidation

Steam Methane Reforming Market, By Application:

Petroleum Refining

Chemicals

Power Generation

Transportation

Industry Energy

Steam Methane Reforming Market, By Region:

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia-Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Kuwait

Turkey

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Steam Methane Reforming Market.

Available Customizations:

Global Steam Methane Reforming Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional Market players (up to five).

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