

# **Global Hydrogen Generation Market By Technology Type (Partial Oxidation, Water Electrolysis, Steam Reforming, Gasification and Others); By Application (Transportation, Methanol Production, Petroleum Refinery, Ammonia Production, and Power Generation); and Region –Analysis of Market Size, Share & Trends for 2016 – 2019 and Forecasts to 2030**

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## **Abstracts**

### Product Overview

Hydrogen is a pure, flexible, and effective zero-emission carrier that has been abundantly found on Earth, but in its molecular form, it is not available. Water makes the manufacturing process efficient and is the primary raw material used for producing hydrogen. The commodity may be manufactured as the main product or from various feedstocks. Hydrogen is a fully renewable fuel, generated and converted efficiently into electricity to meet the energy requirement. Storage of hydrogen can be achieved in various ways such as hydrogen gases, fluids, and concrete. The catalytic reaction, hydrating and chemical conversion of hydrogen will turn into other sources of energy. The advent of the market for hydrogen production has dealt with problems of desulfurization in transportation fuel. Hydrogen is best used for industrial purposes by its lightweight, high performance, simple transport via pipelines, and low boiling point.

### Market Highlights

Fatpos Global anticipates the hydrogen generation market to surpass USD XX Billion by 2030, which is valued at XX billion in 2019 at a compound annual growth rate of XX%. Demand for green and renewable fuel is anticipated to expand exponentially, with increasing levels of emissions and growing government laws for Sulphur control and reduction in fuel content. The market should drive this aspect. The main driving force is

projected to be the increased use of hydrogen in various end-users. The production of hydrogen is focused on various resources such as natural gas, biomass, charcoal, and other sources of renewable and non-renewable energy. Natural gas is the main source of hydrogen production and natural-gas-based steam methane reformers are primarily used for processing.

Source: Fatpos Global

### Global Hydrogen Generation Market: Segments

Global Hydrogen Generation market has been segmented based on technology type, application type, and location. It has been further segmented based on region into North America, Europe, Asia-Pacific, Mid East, and Africa.

### By Application Type (in %), Global Hydrogen Generation Market, 2019

Transportation dominated the market with over XX% of the market share in 2019

Global Hydrogen Generation Market is segmented by application into Transportation, Methanol Production, Petroleum Refinery, Ammonia Production, and Power Generation.

Growing sale of fuel cell vehicles such as FCEV and fuel cell buses in North America and the Asian Pacific is responsible for the demand growth in this area. Nations such as Japan, China, and South Korea introduced a strong commitment to introduce vehicles based on fuel cells to reduce their increasing reliance on imports of gasoline fuel. Besides, the growth of infrastructure support, for example, hydrogen refueling plants, is anticipated to augment the growth in these countries as well.

### By Technology Type (in %), Global Hydrogen Generation Market, 2019

Steam Reforming dominated the market with XX% Market share in 2019 and is anticipated to witness a significant growth in the forecasted period

Global Hydrogen Generation market is segmented by technology type into partial oxidation, Water Electrolysis, Steam Reforming, gasification, and others.

An important share of the market was held by Steam Reforming technology and is projected to maintain its dominance throughout the projected timeline. Steam reform is an innovative, mature hydrogen technology that extracts hydrogen from traditional sources such as natural gas using high-temperature vapor. Most large refineries and factories in central oil and gas produce hydrogen with steam reforming. Market drivers are anticipated to include factors such as enhanced financial benefits and operational benefits, including a high degree of conversion performance from steam reforming.

Source: Fatpos Global

## Global Hydrogen Generation Market: Market Dynamics

### Drivers

Decreased efficiency of crude oil:

Distillation fuel demand and hydrogen fuel cell growth in the forecasted are expected to stimulate global market growth. Decreased crude output nevertheless increased hydrogen's value to manufacturing, thus improving the global market favorably.

Demand for cleaner and potential energy:

Surging demand is anticipated to drive the market for cleaner and more efficient energy production technologies for both industries and domestic requirements. The growing demand for cleaner fuels is a significant factor in global market development. Other factors responsible for potential global demand growth are the decline in crude oil quality and performance & development in the transportation industry. Strict rules are enforced to avoid problems with desulfurization while transport will improve the worldwide demand for hydrogen production.

### Restraints

Highly inflammable

Hydrogen is highly inflammable in nature; it, therefore, calls for high protection when transported and the lack of suitable transport networks increases the cost of transport. This is an important factor restricting the global market for hydrogen production.

## Global Hydrogen Generation Market: Key Players

Air Liquide (France)

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development

Regional Presence

SWOT Analysis

Messer Group (Germany)

Nuvera Fuel Cells (US)

Xebec (Canada)

Ballard Power Systems (Canada)

Plug Power (US)

Air Products and Chemicals (US)

Teledyne Energy Systems (US)

Showa Denko (Japan)

Nippon Sanso (Japan)

Hydrogenics (Canada)

Ally Hi-Tech (China)

Other prominent players

Global Hydrogen Generation Market: Regions

The Asia Pacific is anticipated to dominate the market with a market share in 2019 growing at a CAGR over the forecasted period.

The rise is expected to be driven by rapid economic development and large-scale R&D investments in nations like China, Japan, South Korea, India, and Australia. To tackle many problems, including emissions and economic inequality between urban and rural people, China is undergoing radical changes in the fuel and petroleum industry. The country is also faced with problems by factors such as increased air pollution and increased Sulphur content in the atmosphere.

Asia Pacific: China, Japan, India, and Rest of Asia Pacific

Europe: Germany, the UK, France, and Rest of Europe

North America: The US, Mexico, and Canada

Latin America: Brazil and Rest of Latin America

Middle East & Africa: GCC Countries and Rest of Middle East & Africa

Source: Fatpos Global

Global Hydrogen Generation market is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil, and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium,

Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia,

Turkey and Rest of Europe

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth,  
CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New

Zealand, Australia, and Rest of APAC

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth,  
CAGR – North Africa, Israel, GCC, South Africa

Global Hydrogen Generation Market: Competitive landscape

These actors adapt policies to further improve their footprints in the market, such as providing multi-annual services contracts for current and emerging power plant shareholders. Competition among the leading suppliers is based on their gas turbines 'productivity and effectiveness, as well as their customers' associated services. To boost its market dominance due to the rapid technological change and fierce competition, technical capability and R&D are one of the most important focus areas of the industry.

For instance, A newly designed solar-powered hydrogen generation system was developed by South California Gas Co. (SoCalGas), Stars Corp., and Pacific North West National Laboratory (PNNL). Solar energy is used to convert water and natural gas into hydrogen and absorbs CO<sub>2</sub> to prevent carbon emissions.

Global Hydrogen Generation market report also contains analysis on:

Hydrogen Generation Market Segments:

By Technology Type:

Water Electrolysis

Partial oxidation

Steam Reforming

Gasification

others

By Product Type:

Transportation

Methanol Production

Petroleum Refinery

Ammonia Production

Power Generation

Hydrogen Generation Market Dynamics

Hydrogen Generation Market Size  
Supply & Demand  
Current Trends/Issues/Challenges  
Competition & Companies Involved in the Market  
Value Chain of the Market  
Market Drivers and Restraints

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Consultant Recommendation

\*\*The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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