

## Hydrogen Market to Generate Sales of US\$ 761.3 Bn By 2040 | Top 5 Companies Contributed About 50% to the Revenue Share

CHICAGO, UNITED STATES, September 21, 2023 /EINPresswire.com/ -- The global <u>hydrogen market</u> is estimated to witness a rise in revenue from US\$ 206.6 billion in 2022 to US\$ 761.3 billion by 2040, growing at a CAGR of 7.5% during the forecast period from 2023 to 2040. Moreover, in terms of volume, the market is projected to grow at a CAGR of 7.1% over the forecast period.

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In the upcoming years, there will likely be a major rise in the demand for the hydrogen market on a global scale,

mostly due to the increased usage of renewable energy sources and the shift to a low-carbon economy. According to the International Energy Agency (IEA), by 2030, more than half of the world's hydrogen will be produced under the Net Zero Scenario's 95 Mt low-emission hydrogen production.

The development of renewable energy technologies and the acceleration of the shift to lowcarbon economies are likely to result in a large increase in the demand for hydrogen on the global market in the upcoming years. In order to meet the needs of the market, this rising demand will necessitate large expenditures in production and delivery infrastructure. While nations in Europe and the United States have developed their own policies to construct the required infrastructure for a hydrogen economy, Australia has already committed more than \$300 million to the development of a hydrogen industry.

Astute Analytica's research predicts that by 2040, the world will produce more hydrogen than 252,597.4 tons. This is an increase from the projected 2020 production of 75 MtH2/yr of pure hydrogen and an additional 45 MtH2/yr of hydrogen that is included in a mixture of gases. The analysis predicts that with the completion of all projects now in the works, electrolyzer capacity might reach 134-240 GW by 2030. The ability to produce electrolyzers has already increased

since last year, reaching about 8 GW annually, exceeding estimates by double. This suggests that, especially in light of goals related to combating climate change, hydrogen may become an increasingly significant energy source in the future.

Thermal Process Captured More Than 50% of Market Revenue Share

The thermal process category held around 87% of the market revenue share in 2022. Thermal processes are a significant technology employed by important participants in the hydrogen market. The most popular is natural gas reforming, which extracts hydrogen from methane-rich natural gas using high-temperature steam. This method is responsible for producing more than half of the hydrogen produced each year in the US.

The research also emphasizes the possibility of producing hydrogen through thermochemical processes like pyrolysis, gasification, and hydrothermal liquefaction. These procedures disintegrate organic materials using heat and chemical reactions, producing a synthesis gas that can be utilized to generate hydrogen. One benefit of these procedures is the utilization of renewable energy sources, such as biomass, and the closed-loop system, which only consumes water and generates hydrogen and oxygen. Additionally, these procedures may be scaled up or down as necessary and are comparatively cost-effective.

North America to Capture the Highest Revenue Share

North America is expected to experience the highest growth rate, with a CAGR of 7.7% during the forecast period. Advancements in numerous applications and technology are to blame for the sector's explosive expansion. For instance, the use of hydrogen for the manufacturing of methanol and ammonia has increased significantly in the United States. The demand for hydrogen in the area has increased owing to the rising demand for these applications.

Canada is one of the top ten global producers of hydrogen and a pioneer in revolutionary hydrogen and fuel cell technologies, according to recent research into the hydrogen business in North America. In order to accomplish the nation's goal of net-zero emissions by 2050 and to establish Canada as a global industrial leader in clean renewable fuels, the Hydrogen Strategy for Canada lays forth an ambitious framework for activities.

Key conclusions on the future of hydrogen consumption and production are presented in the International Energy Agency publication, The Future of Hydrogen. They found that the decarbonization of several industrial sectors, as well as transportation, heating, and electricity production, may be greatly aided by the hydrogen market. Thus, this will accelerate market expansion.

Top 5 Companies Contributed About 50% to the Market Revenue Share

With numerous significant competitors and numerous regional and international manufacturers

fighting for market dominance, the global hydrogen industry is extremely competitive. Air Products and Chemicals Inc., Air Liquide, Linde AG, INOX India Ltd., and Praxair Inc. are significant market participants. In 2022, these firms generated nearly half of the market value. Air Liquide International offers commercial services, which also specializes in gases, technologies, and services for industry and health. For life, matter, and energy, oxygen, nitrogen, and hydrogen are crucial tiny molecules.

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List of Prominent Competitors

- Air Liquide International S.A.
- Air Products and Chemicals, Inc.
- Aquahydrex
- Atawey
- Claind
- Cummins
- Ergousp
- Enapter AG
- EvolOH, Inc.
- Fuel Cell Energy
- Green Hydrogen Systems
- Heliogen
- Hydrogenics
- HyTech Power
- Inox
- ITM Power
- Linde plc
- McPhy Energy
- Messer Group GmbH
- NEL Hydrogen
- Plug Power
- PowerTap
- Siemens AG
- Showa Denko
- Starfire Energy
- Taiyo Nippon
- Uniper
- Verdagy
- Weldstar, Inc.
- Xebec Adsorption Inc.
- Other Prominent Players

## Segmentation Outline

The global hydrogen market segmentation focuses on Technology, Application, Delivery Mode, and Region.

By Technology

- Thermal Process
- o Steam Methane Reforming (SMR)
- o Partial Oxidation (POX)
- o Coal Gasification
- o Biomass Gasification
- Electrolytic Process
- o SOEC
- o SOFC
- o PEM

By Application

- Methanol Production
- Ammonia Production
- Petroleum Refinery
- Heat Treatment
- Transportation
- Power Generation
- Renewable Energy
- Hydrogen Fuel Cell
- o Fuel Cell Vehicles
- o Fuel Cell Ships
- o Fuel Cell Battery
- o Mobile Power Generation
- Others

By Delivery Mode

- Captive
- Merchant

By Region

- North America
- o The U.S.
- o Canada
- Europe
- o The UK
- o Germany
- o France
- o Norway
- o The Netherlands

- o Rest of Europe
- Asia Pacific
- o China
- o India
- o Japan
- o Australia
- o South Korea
- o Rest of Asia Pacific
- Rest of the World
- o Middle East & Africa (MEA)
- o Latin America

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Aamir Beg Astute Analytica +1 888-429-6757 email us here Visit us on social media: Twitter LinkedIn

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