+357 96 030922
info@marketpublishers.com

Low-carbon Hydrogen Market Assessment, By Power Source [Renewable Energy, Non-renewable Energy], By Type [Green Hydrogen, Blue Hydrogen, Aqua Hydrogen], By Production Process [Electrolysis, Gasification], By End-use Industry [Transportation, Power Generation, Oil Refineries, Steel, Fertilizers, Others], By Region, Opportunities and Forecast, 2016-2030F

https://marketpublishers.com/r/LC55F57C7FAEEN.html
Date: February 2025
Pages: 239
Price: US$ 4,500.00 (Single User License)
ID: LC55F57C7FAEEN

Abstracts

Global low-carbon hydrogen market size was recorded at 605.7 kilo tons in 2022, which is expected to reach 3751.2 kilo tons in 2030, with a CAGR of 25.6% for the forecast period between 2023 and 2030. The booming transportation and oil refineries sectors at the global level are accelerating the demand for low-carbon hydrogen to ensure efficient substitution of traditional fossil fuels, which is driving the market growth.

Governments in various countries are undertaking stringent regulatory measures to reduce their carbon footprint. The strict carbon emission standards are prompting high carbon footprint-generating industries, such as fertilizers, steel, transportation, and others, to adopt low-carbon hydrogen. These industries generate approximately 25% or more of global CO2 emissions. As a result, the demand for low-carbon hydrogen is increasing worldwide. This, in turn, leads the manufacturers to develop new low-carbon hydrogen-generating plants, thereby creating a lucrative opportunity for market growth during the projected period.

Bolstering Transportation Industry

+357 96 030922
info@marketpublishers.com

The low-carbon hydrogen fuel enables vehicles to travel longer distances with less refueling than traditional fossil fuels. Hence, low-carbon hydrogen is utilized in fueling public transit, such as buses, aircraft, marine vessels, heavy-duty tractor-trailers, and others. The increasing investments in the development of new green hydrogen-powered marine vessels and the rising production of heavy-duty trucks are prominent aspects boosting the market growth at the global level.

For instance, in July 2022, Mazagon Dock Shipbuilders Limited (MDL), a marine vessel manufacturer in India introduced Fuel Cell Electric Vessel (FCEV) prototype powered by green hydrogen. Hence, the bolstering transportation industry at the global level is fostering the demand for low-carbon hydrogen as it is deployed as a fuel in the internal combustible engine, propelling the market growth.

The Rising Adoption of Low-carbon Hydrogen in Oil Refineries

Low-carbon hydrogen provides aid in desulfurizing crude oil and eliminates carbon footprint generation into the atmosphere. The employment of low-carbon hydrogen manufactured from renewable energy sources is increasing in oil refinery applications such as reactors, heavy oil hydrotreating units, and others. The growth of the oil refinery industry is attributed to factors such as the increasing adoption of green hydrogen to maximize production output and the launch of new oil refineries.

For instance, in July 2022, China Petroleum & Chemical Corporation (Sinopec), started the production of green hydrogen in the Green Hydrogen Pilot Project in Northwest China. The manufacturing plant has a production capacity of 20,000 tonnes per year based on solar energy. The green hydrogen manufactured in the Green Hydrogen Pilot Project will be utilized in Sinopec’s Tahe refinery. Thus, the recently developed low-carbon hydrogen plants for application in the oil refinery are expected to achieve low-carbon targets, which, in turn, is benefiting the market growth.

Impact of COVID-19

The COVID-19 pandemic impacted the global level in the year 2020, disrupting the supply chain of non-essential products. Thus, impacting the operations in industries such as transportation, fertilizers, and others. For instance, according to the Organisation Internationale des Constructeurs d'Automobiles (OICA), in 2019, the production of buses and coaches at the global level was 346,220 units. In 2020, it was 219,453 units, a decline of 36.61%. Since the transportation industry is a prominent end-user of low-carbon hydrogen, the halt in its production impacted the revenue growth of

+357 96 030922
info@marketpublishers.com

the low-carbon hydrogen market.

However, by the end of 2020, governments worldwide implemented measures such as monetary stimulus packages for industries and ease of COVID-19 restrictions, increasing market growth. Eventually, the impact of the COVID-19 pandemic was eradicated, which led to a robust global low-carbon market growth in the upcoming years.

Impact of Russia-Ukraine War

Russia was ranked as the 3rd leading crude oil exporter in 2021. The European countries, including the Netherlands, Germany, Poland, and others are the major importers for Russian crude oil. The Russian invasion of Ukraine posed volatility in fossil fuel markets, which prompted the utilization of clean energy technologies and a short-term supply constraint for oil and gas products.

The conflict between Russia and Ukraine has resulted in countries diversifying their energy sources, promoting the development of new low-carbon hydrogen projects. For instance, in May 2022, the European Commission implemented the REPowerEU plan to foster the EU hydrogen strategy to move away from Russia’s fossil fuel imports. The strategy promotes the development of new low-carbon hydrogen facilities. Therefore, the pro-government measures to counter Russian fossil fuel imports are boosting the development of new hydrogen production facilities, including low-carbon hydrogen plants in the European region, augmenting market growth in the upcoming years.

Key Players Landscape and Outlook

The key players offering low-carbon hydrogen leverage their technological potential to develop low-carbon hydrogen plants. The focus of the market players such as Technip Energies N.V., Exxon Mobil Corporation., Plug Power Inc., China Petrochemical Corporation, and others are on the adoption of various strategies like infrastructure development for new plants, reducing the overall production cost and increasing efficiency.

For instance, in January 2023, Exxon Mobil Corporation provided a front-end engineering and design (FEED) contract to develop a new low-carbon hydrogen project in the United States. The construction of the Exxon Mobil Corporation low-carbon hydrogen project is expected to commence in 2024. Furthermore, the project will commence production of low-carbon hydrogen in the year 2026-2027. Thus, the low-

+357 96 030922
info@marketpublishers.com

carbon hydrogen manufacturing facility will be linked with the olefins production plant in the United States to ensure superior sustainability for end products.

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

8. LOW-CARBON HYDROGEN MARKET OUTLOOK, BY REGION, 2016-2030F

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

9. SUPPLY SIDE ANALYSIS

10. MARKET MAPPING, 2022

11. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

+357 96 030922
info@marketpublishers.com

12. MARKET DYNAMICS

12.1. Growth Drivers
12.2. Growth Inhibitors (Challenges, Restraints)

13. KEY PLAYERS LANDSCAPE

13.1. Competition Matrix of Top Five Market Leaders
13.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2022)
13.3. Mergers and Acquisitions/Joint Ventures (If Applicable)
13.4. SWOT Analysis (For Five Market Players)
13.5. Patent Analysis (If Applicable)

14. PRICING ANALYSIS

15. CASE STUDIES

16. KEY PLAYERS OUTLOOK

16.1. Technip Energies N.V.
  16.1.1. Company Details
  16.1.2. Key Management Personnel
  16.1.3. Products & Services
  16.1.4. Financials (As reported)
  16.1.5. Key Market Focus & Geographical Presence
  16.1.6. Recent Developments
16.2. Exxon Mobil Corporation.
16.3. Plug Power Inc.
16.4. China Petrochemical Corporation
16.5. Linde plc
16.6. Shell Plc
16.7. Ballard Power Systems.
16.8. Bloom Energy
16.9. GeoPura, Ltd.
16.10. Uniper SE
*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Low-carbon Hydrogen Market Assessment, By Power Source [Renewable Energy, Non-renewable Energy], By Type [Green Hydrogen, Blue Hydrogen, Aqua Hydrogen], By Production Process [Electrolysis, Gasification], By End-use Industry [Transportation, Power Generation, Oil Refineries, Steel, Fertilizers, Others], By Region, Opportunities and Forecast, 2016-2030F

Product link: https://marketpublishers.com/r/LC55F57C7FAEEN.html

Price: US$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/LC55F57C7FAEEN.html