

Hydrogen Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

Market Report | 2024-11-25 | 100 pages | Global Market Insights

AVAILABLE LICENSES:

- Single User \$4850.00
- Multi User \$6050.00
- Enterprise User \$8350.00

Report description:

The Global Hydrogen Market, valued at USD 204.5 billion in 2024, is projected to grow at a CAGR of 12.3% from 2025 to 2034. Hydrogen, the most abundant and lightest element in the universe, is a colorless, odorless, non-toxic gas that is highly flammable under standard conditions. As a versatile and clean fuel, hydrogen has the potential to play a crucial role in various industries.

One of the key drivers behind market growth is the push to decarbonize industries by adopting low-carbon hydrogen production methods. Hydrogen's application in manufacturing ammonia, methanol, and other chemicals further boosts its market presence. Many companies are shifting toward blue hydrogen, which uses natural gas combined with carbon capture and storage (CCS) technologies to reduce emissions, creating new opportunities in the market. The global transition to cleaner energy sources accelerates the demand for energy-efficient fuels, positioning hydrogen as an alternative to traditional fuels.

The adoption of hydrogen fuel cell vehicles (FCVs) for commercial and industrial purposes is another factor fueling market growth. Additionally, the use of hydrogen-powered buses and trains, especially in certain regions, is increasing, further contributing to demand. As hydrogen-powered trains emerge as a viable alternative to diesel-powered ones, regions facing challenges with rail electrification see promising potential for hydrogen adoption.

The hydrogen market is divided into three main applications: petroleum refineries, chemicals, and others. The petroleum refinery sector is set to exceed USD 409 billion by 2034. The growing demand for hydrogen in refineries, particularly for reducing carbon emissions, is driving the market forward. Hydrogen is essential in refining processes, such as reducing sulfur content in fuels. The shift toward green hydrogen in refineries to meet net-zero emission targets is also expanding.

The market is also categorized by hydrogen type into grey, blue, and green hydrogen. The grey hydrogen segment is expected to grow at an 11% CAGR through 2034. As demand for hydrogen rises, the industry is increasingly favoring green hydrogen due to the carbon-intensive nature of traditional grey hydrogen production methods, like steam methane reformation.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

As industries face mounting pressure to reduce greenhouse gas emissions and transition away from high-emission processes, the hydrogen market continues to expand. The U.S. market, in particular, is expected to surpass USD 36 billion by 2034, fueled by governmental support and state-driven initiatives in clean energy. In addition, Canada is emerging as a key exporter of clean hydrogen to international markets, further strengthening the global demand for hydrogen solutions.

Table of Contents:

Report Content

Chapter 1 Methodology & Scope

1.1 Research design

1.2 Base estimates & calculations

1.3 Forecast model

1.4 Primary research & validation

1.4.1 Primary sources

1.4.2 Data mining sources

1.5 Market definitions

Chapter 2 Executive Summary

2.1 Industry 360° synopsis, 2021 - 2034

Chapter 3 Industry Insights

3.1 Industry ecosystem

3.2 Regulatory landscape

3.3 Industry impact forces

3.3.1 Growth drivers

3.3.2 Industry pitfalls & challenges

3.4 Growth potential analysis

3.5 Porter's analysis

3.5.1 Bargaining power of suppliers

3.5.2 Bargaining power of buyers

3.5.3 Threat of new entrants

3.5.4 Threat of substitutes

3.6 PESTEL analysis

Chapter 4 Competitive landscape, 2024

4.1 Introduction

4.2 Strategic dashboard

4.3 Innovation & technology landscape

Chapter 5 Market Size and Forecast, By Type, 2021 - 2034 (USD Billion & MT)

5.1 Key trends

5.2 Grey

5.3 Blue

5.4 Green

Chapter 6 Market Size and Forecast, By Application, 2021 - 2034 (USD Billion & MT)

6.1 Key trends

6.2 Petroleum refinery

6.3 Chemical

6.4 Others

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Chapter 7 Market Size and Forecast, By Region, 2021 - 2034 (USD Billion & MT)

7.1 Key trends

7.2 North America

7.2.1 U.S.

7.2.2 Canada

7.2.3 Mexico

7.3 Europe

7.3.1 Germany

7.3.2 UK

7.3.3 France

7.3.4 Italy

7.3.5 Netherlands

7.3.6 Russia

7.4 Asia Pacific

7.4.1 China

7.4.2 Japan

7.4.3 India

7.4.4 Australia

7.5 Middle East & Africa

7.5.1 Saudi Arabia

7.5.2 Iran

7.5.3 UAE

7.5.4 South Africa

7.5.5 Qatar

7.5.6 Kuwait

7.6 Latin America

7.6.1 Brazil

7.6.2 Argentina

7.6.3 Chile

Chapter 8 Company Profiles

8.1 Air Liquide

8.2 Air Products & Chemicals

8.3 Ally Hi Tech

8.4 Ballard Power Systems

8.5 Caloric

8.6 Claind

8.7 Cummins

8.8 ENGIE

8.9 HyGear

8.10 Infinite Green Energy

8.11 Iwatani Corporation

8.12 Linde

8.13 Mahler AGS

8.14 Mcphy Energy

8.15 Messer

8.16 Nel ASA

8.17 Nuvera Fuel Cells

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 8.18 Plug Power
- 8.19 Resonac Holdings Corporation
- 8.20 Taiyo Nippo Sanso Corporation
- 8.21 Teledyne Technologies Incorporated
- 8.22 Xebec Adsorption

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Hydrogen Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

Market Report | 2024-11-25 | 100 pages | Global Market Insights

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

| Select license | License | Price |
|----------------|-----------------|-----------|
| | Single User | \$4850.00 |
| | Multi User | \$6050.00 |
| | Enterprise User | \$8350.00 |
| | | VAT |
| | | Total |

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

| | | | |
|---------------|----------------------|-------------------------------|-----------------------------------------|
| Email* | <input type="text"/> | Phone* | <input type="text"/> |
| First Name* | <input type="text"/> | Last Name* | <input type="text"/> |
| Job title* | <input type="text"/> | | |
| Company Name* | <input type="text"/> | EU Vat / Tax ID / NIP number* | <input type="text"/> |
| Address* | <input type="text"/> | City* | <input type="text"/> |
| Zip Code* | <input type="text"/> | Country* | <input type="text"/> |
| | | Date | <input type="text" value="2026-03-05"/> |
| | | Signature | |

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com



Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com